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UNITED STATES DEPARTMENT OF AGRICULTURE
2 U. S. AGRICULTURAL RESEARCH SERVICE, 72 a
1a FOREIGN RESEARCH AND TECHNICAL PROGRAMS DIVISION
WASHINGTON, D. C. 20250

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FOREIGN AGRICULTURAL RESEARCH AGREEMENTS EXECUTED

UNDER PUBLIC LAW 480, (Sections 104(a) and 104(k))

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
FOREIGN RESEARCH AND TECHNICAL PROGRAMS DIVISION
WASHINGTON, D. C. 20250

June 30, 1966

TO: Receivers of USDA's report on "Foreign Agricultural
 Research Agreements Executed Under Public Law 480
 (Sections 104(a) and 104(k))"

FROM: D. Maxine Cook, Administrative Assistant

SUBJECT: Information on This Annual Report; and Issuance of
 Subsequent Quarterly Reports.

The enclosed report lists all Public Law 480 research agreements active as of June 30, 1966; and research agreements terminated during the fiscal year 1966 (July 1, 1965 through June 30, 1966). This information is presented by country and type of research -- namely, Economic Research, Farm Research, Forestry Research, Human Nutrition Research, Marketing Research, Statistical Reporting Research, and Utilization Research.

These agreements are financed with foreign currencies obtained by the United States from sales of farm products abroad under Public Law 480. The money cannot be converted into dollars for use in the United States. Dollar equivalent figures shown in this report are for your convenience in translating foreign currencies into a common factor. Rate of exchange used, except for India and Yugoslavia, is that in force at the time of the execution of the (1) research agreement or (2) amendment which involves additional funds. Dollar equivalents for India and Yugoslavia have been changed to reflect recent changes in the rate of exchange.

It is suggested that this copy be kept in your files because subsequent issuances will include only those agreements executed in the current quarters. The active agreement report will be reissued at the end of each fiscal year. The agreements mentioned in the "Terminated Research Agreements" section (see page 100) will not be repeated.

Enclosure

D. Maxine Cook

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U. S. Department of Agriculture PL 480 COUNTRY CODES

A -- ASIA

A5 Ceylon
A6 Taiwan (Republic
of China)
A7 India
A10 Israel
A11 Japan
A13 Korea
A17 Pakistan
A18 Philippines
A20 Syria
A22 Turkey

E -- EUROPE

E3 Austria
E4 Belgium
E8 Finland
E9 France
E10 Germany, West
E11 Greece
E15 Italy
E19 Netherlands
E21 Poland
E25 Spain
E26 Sweden
E27 Switzerland
E29 United Kingdom
E30 Yugoslavia

F -- AFRICA

F4 Egypt

O -- OCEANIA

O1 Australia

S -- SOUTH AMERICA

S3 Brazil
S4 Chile
S5 Colombia
S8 Peru
S9 Uruguay

U. S. Department of Agriculture AGENCY CODES Used

ARS -- Agricultural Research Service

AE -- Agricultural Engineering Research Division
ADP -- Animal Disease and Parasite Research Division
AH -- Animal Husbandry Research Division
CR -- Crops Research Division
ENT -- Entomology Research Division
SWC -- Soil and Water Conservation Research Division
HN -- Human Nutrition Research Division
MQ (and AMS) -- Market Quality Research Division
TF -- Transportation and Facilities Research Division
UR -- Utilization Research Divisions
(Northern Utilization Research and Development Division;
Southern Utilization Research and Development Division;
Eastern Utilization Research and Development Division;
Western Utilization Research and Development Division.)

ERS -- Economic Research Service

FS -- Forest Service

SRS -- Statistical Reporting Service

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL RESEARCH SERVICE
 FOREIGN RESEARCH AND TECHNICAL PROGRAMS DIVISION
 WASHINGTON, D. C. 20250

June 30, 1966

FOREIGN AGRICULTURAL RESEARCH AGREEMENTS EXECUTED
 UNDER PUBLIC LAW 480 (Sections 104(a) and 104(k))

AUSTRALIA

Utilization Research

UR-01-(10)-1

Measurement of viscoelastic properties of wheat flour doughs, to provide information needed to expand the food utilization of wheat.

Bread Research Institute of Australia, North Ryde, New South Wales.

Grant FG-Au-100 executed January 1, 1964. Duration: Five years.

Amount: 64,342 Australian dollars (\$71,890. equivalent).

UR-01-(40)-2

An investigation of the chemistry and biological effects of cyclopropenoid compounds that occur in cottonseed and cottonseed products, to obtain basic information needed to improve the utilization of these commodities.

Commonwealth Scientific and Industrial Research Organization,
 Ryde, New South Wales.

Grant FG-Au-102 executed January 2, 1964. Duration: Five years.

Amount: 92,000 Australian dollars (\$103,348. equivalent).

UR-01-(60)-4

Studies of the structural differences and the mechanism of transformation of ovalbumin into S-ovalbumin, which differs in functional properties from ovalbumin, in order to increase the utilization potential for processed egg products.

Commonwealth Scientific and Industrial Research Organization,
 Ryde, New South Wales.

Grant FG-Au-101 executed January 2, 1964. Duration: Three years.

Amount: 16,400 Australian dollars (\$18,423. equivalent).

AUSTRIA

Utilization Research

UR-E3-(60)-7

Small angle X-ray investigations of the structures and interactions of nucleic acids, to acquire basic information on the synthesis of milk proteins.

Institute of Physical Chemistry, University of Graz, Graz.

Grant FG-Austria-101 executed May 25, 1966. Duration: Five years.

Amount: 1,469,500 Austrian schillings (\$57,046. equivalent).

AUSTRIAUtilization Research (continued)

UR-E3-(30)-8

Studies of radiation sensitization of the mold Byssochlamys fulva and other related heat-resistant organisms, to develop new low-heat sterilization procedures for processed fruit juices.

Institute of Biology and Agriculture, Reactor Centre, Seibersdorf.

Grant FG-Austria-102 executed June 22, 1966. Duration: Five years.

Amount: 1,228,742 Austrian schillings (\$47,700. equivalent).

BELGIUMUtilization Research

UR-E4-(20)-1

A fundamental study of the nature and origin of reversals in cotton fibers, and of their relation to mechanical properties of these fibers, to obtain information needed in the development of improved cotton products.

State University of Ghent, Ghent.

Grant FG-Be-101 executed November 1, 1964. Duration: Four years.

Amount: 3,400,000 Belgian francs (\$68,493. equivalent).

UR-E4-(10)-2

Search for lytic enzymes of microbial origin with activity on cell walls of bacteria actinomycetes, molds, and yeasts to provide a basis for the development of new fermentation processes for the increased utilization of cereal grains.

Bacteriology Department, University of Liege, Liege.

Grant FG-Be-100 executed May 21, 1964. Duration: Five years.

Amount: 4,625,000 Belgian francs (\$92,871. equivalent).

UR-E4-(10)-4

Investigation of the relation between isopropanol-soluble proteins of different classes of wheat and the baking qualities of their flours, to provide a basis for expanding markets for U. S. wheat.

National Center for Technical Aid and Applied Research, Antwerp.

Grant FG-Be-102 executed April 1, 1966. Duration: Two years.

Amount: 1,535,000 Belgian francs (\$30,762. equivalent).

BRAZILFarm Research

S3-AE-2

Investigations in mechanization of sugarcane production.

Escola Superior de Agricultura "Luiz de Queiroz" de Piracicaba,
University of Sao Paulo, Sao Paulo.

Grant FG-Br-114 executed March 9, 1962. Duration: Five years.

Amount: 15,115,000 Brazilian cruzeiros (\$20,341. equivalent).

BRAZILFarm Research (continued)

S3-ADP-2

Studies on foot-and-mouth disease virus.

Instituto Biologico, Sao Paulo.

Grant FG-Br-106 executed October 19, 1961. Duration: Five years.

Amount: 44,330,000 Brazilian cruzeiros (\$51,726. equivalent).

S3-ADP-3

Study of plants of the State of Sao Paulo poisonous to domestic animals.

Instituto Biologico, Sao Paulo.

Grant FG-Br-109 executed October 27, 1961. Duration: Five years.

Amount: 37,700,000 Brazilian cruzeiros (\$38,799. equivalent).

S3-CR-2

Studies on interference between strains of the tristeza virus on citrus.

Instituto Agronomico, Campinas, Sao Paulo.

Grant FG-Br-107 executed October 19, 1961. Duration: Five years.

Amount: 59,910,000 Brazilian cruzeiros (\$64,817. equivalent).

S3-CR-7

The collection and evaluation of tropical and subtropical legumes of indigenous and world origin.

International Research Institute, Sao Paulo.

Grant FG-Br-108 executed November 6, 1961. Duration: Five years.

Amount: 77,110,000 Brazilian cruzeiros (\$95,978. equivalent).

S3-CR-9

Basic research on the biochemistry of crown gall formation which affects rosaceous plants.

Instituto Biologico, Sao Paulo.

Grant FG-Br-113 executed November 7, 1961. Duration: Five years.

Amount: 19,757,000 Brazilian cruzeiros (\$21,015. equivalent).

S3-CR-11

Ecological and cytological studies and genetic improvement of native species of grasses and legumes of forage interest in the State of Rio Grande do Sul.

Secretaria da Agricultura, Porto Alegre, Rio Grande do Sul.

Grant FG-Br-110 executed November 14, 1961. (eff. 1/1/62). Duration: Five years.

Amount: 83,020,000 Brazilian cruzeiros (\$86,372. equivalent).

BRAZILFarm Research (continued)

S3-CR-37

Evaluation of corn and beans native to Central and South America as sources of germ plasma for use in breeding programs in the U. S.

Institute of Genetics, University of Sao Paulo, "Luiz de Queiroz," Piracicaba, Sao Paulo.

Grant FG-Br-111 executed November 11, 1961. Duration: Five years. Amount: 49,060,000 Brazilian cruzeiros (\$59,977. equivalent).

S3-ENT-1

Biology and breeding of honey bees.

Faculdade de Medicina de Ribeirao Preto da Universidade de Sao Paulo, Sao Paulo.

Grant FG-Br-102 executed October 12, 1961. Duration: Five years. Amount: 65,675,000 Brazilian cruzeiros (\$51,114. equivalent).

S3-ENT-7

Catalogue of insects living on plants in Brazil and of the parasites and predators of the insects.

Entomology Laboratory, Ministry of Agriculture, Rio de Janeiro.

Grant FG-Br-101 executed October 4, 1961. Duration: Five years. Amount: 64,806,540 Brazilian cruzeiros (\$55,724. equivalent).

Forestry Research

S3-FS-6

The relation of the concentration of macronutrients (N, P, K, Ca, Mg, and S) in the substrate and in the foliage to cell wall thickness and cellulose concentration in the xylem of slash pine (Pinus elliottii).

Escola Superior de Agricultura "Luiz de Queiroz," University of Sao Paulo, Piracicaba.

Grant FG-Br-116 executed March 9, 1962. Duration: Five years. Amount: 41,170,000 Brazilian cruzeiros (\$33,022. equivalent).

S3-FS-7

Disease and insect susceptibility and species adaptability of some North American pine species planted in Sao Paulo.

State Forest Service, Sao Paulo.

Grant FG-Br-103 executed October 19, 1961. Duration: Five years. Amount: 35,190,000 Brazilian cruzeiros (\$36,846. equivalent).

Marketing Research

S3-AMS-2(k)

Substrate moisture levels for germination testing of agricultural seeds.

Instituto Biologico, Sao Paulo.

Grant FG-Br-112 executed November 7, 1961. Duration: Five years. Amount: 25,960,000 Brazilian cruzeiros (\$28,034. equivalent).

BRAZIL (continued)Utilization Research

UR-S3-(60)-10

The relation of biological activity of proteins to their structure, as determined by investigations of proteolytic enzymes, to obtain fundamental information for use as a basis for developing improved protein-rich foods such as dairy and meat products.

Laboratory of Protein Chemistry, Instituto Nacional de Tecnologia,
Rio de Janeiro.

Grant FG-Br-100 executed September 26, 1961. Duration: Five years.
Amount: 79,218,830 Brazilian cruzeiros (\$86,652. equivalent).

UR-S3-(10)-11

Preparation of cationic cereal starch derivatives for use in paper and textiles by the introduction of quaternary phosphonium and tertiary sulfonium groups into crosslinked and noncrosslinked starches.

Instituto Nacional de Tecnologia, Rio de Janeiro.

Grant FG-Br-117 executed March 9, 1962. Duration: Five years.
Amount: 73,512,000 Brazilian cruzeiros (\$72,745. equivalent).

CHILEFarm Research

S4-CR-19

Investigation on yellow wilt of sugar beet and the evaluation of breeding material for resistance to the virus.

Industria Azucarera Nacional S. A., Santiago.

Grant FG-Ch-102 executed November 7, 1963. Duration: Three years.
Amount: 90,035 Chilean escudos (\$29,912. equivalent).

Forestry Research

S4-FS-3

Investigation of the role of photoperiod in the rooting and growth induction of short shoots of pine (*Pinus*).

Escuela de Ingenieria Forestal and Facultad de Agronomia, University
of Chile, Santiago.

Grant FG-Ch-100 executed August 30, 1961. Duration: Five years.
Amount: 94,763 Chilean escudos (\$31,558. equivalent).

S4-FS-6

Biosynthesis of terpenes in Monterey pine (*Pinus radiata*).

Department of Biochemistry, University of Chile, Santiago.

Grant FG-Ch-101 executed October 1, 1963. Duration: Five years.
Amount: 140,950 Chilean escudos (\$39,157. equivalent).

S4-FS-7

Effect of growth regulators in pine meristems.

Faculty of Agronomy, University of Chile, Santiago.

Grant FG-Ch-103 executed March 18, 1964. Duration: Five years.
Amount: 115,160 Chilean escudos (\$29,899. equivalent).

COLOMBIAEconomic Research

S5-ERS-3(k)

Economic aspects of the production, marketing, and utilization of corn and other feed grains in Colombia.

Facultad de Agronomia e Instituto Forestal, Medellin.

Grant FG-Co-110 executed September 14, 1964. Duration: Two years.

Amount: 286,700 Colombian pesos (\$28,727. equivalent).

Farm Research

S5-AM-1

Evaluation of the native breed, Costeno con Cuernos, and European breeds and European-native breed crosses when managed and selected for dairy traits under the hot and humid conditions of northern Colombia.

Instituto Colombiano Agropecuario (I.C.A.), Ministerio de Agricultura, Bogota.

Grant FG-Co-105 executed March 14, 1962. Duration: Five years.

Amount: 2,157,600 Colombian pesos (\$246,021. equivalent).

S5-CR-2

Studies of the pathogenic potentialities of Puccinia graminis avenae (Oat stem rust) and sources of and genetics of resistance in oats.

Instituto Colombiano Agropecuario (I.C.A.), Ministry of Agriculture, Bogota.

Grant FG-Co-106 executed February 20, 1962. Duration: Five years.

Amount: 708,100 Colombian pesos (\$58,816. equivalent).

S5-ENT-2

A biochemical study of Drosophila (vinegar flies) classification.

University of the Andes, Bogota.

Grant FG-Co-107 executed August 23, 1962. Duration: Four years.

Amount: 459,360 Colombian pesos (\$39,469. equivalent).

S5-ENT-3

The metabolism of temperature-acclimated Drosophila (vinegar fly).

University of the Andes, Bogota.

Grant FG-Co-100 executed October 31, 1961. Duration: Five years.

Amount: 310,500 Colombian pesos (\$29,301. equivalent).

Forestry Research

S5-FS-1

Disease and insect susceptibility and species adaptability of some North American forest tree species planted in Colombia.

Forestry Institute, National University, Medellin.

Grant FG-Co-101 executed November 2, 1961 (eff. 7/1/62). Duration: Five years.

Amount: 749,600 Colombian pesos (\$67,824. equivalent).

COLOMBIAForestry Research (continued)

S5-FS-4

Basic studies of the physiological changes in the transition from juvenile to mature stage in certain forest trees.

Universidad de los Andes, Bogota.

Grant FG-Co-109 executed December 19, 1963. Duration: Five years.

Amount: 478,800 Colombian pesos (\$32,933. equivalent).

S5-FS-5

Studies on the production of homozygous lines of pines.

Biology Department, University of the Andes, Bogota.

Grant FG-Co-111 executed January 26, 1966. Duration: Five years.

Amount: 392,500 Colombian pesos (\$22,663. equivalent).

EGYPT (U.A.R.)Farm Research

F4-AH-1

Improving and evaluating the Fayoumi and Dandarawi fowls.

Animal and Poultry Breeding Department, Ministry of Agriculture, Dokki, Giza.

Grant FG-Eg-103 executed March 4, 1963. Duration: Five years.

Amount: 56,899 Egyptian pounds (\$113,920. equivalent).

F4-CR-2

Citrus virus disease research.

Ministry of Agriculture, Plant Protection Department, Dokki (Cairo).

Grant FG-Eg-105 executed September 26, 1963. Duration: Five years.

Amount: 14,855 Egyptian pounds (\$31,482. equivalent).

F4-ENT-2

Study of the insect fauna of Egypt.

Ministry of Agriculture, Plant Protection Department, Dokki.

Grant FG-Eg-102 executed March 28, 1962. Duration: Five years.

Amount: 24,017 Egyptian pounds (\$52,483. equivalent).

F4-ENT-4

Biology, ecology and utilization of insects other than honey bees in the pollination of agricultural crops.

Department of Agricultural Zoology, University of Cairo, Cairo.

Grant FG-Eg-106 executed March 25, 1964. Duration: Five years.

Amount: 31,735 Egyptian pounds (\$61,561. equivalent).

F4-ENT-5

Studies on the insects attacking thistles in U.A.R.

Plant Protection Department, Ministry of Agriculture, Dokki, Cairo.

Grant FG-Eg-108 executed June 26, 1965. Duration: Three years.

Amount: 15,800 Egyptian pounds (\$30,558. equivalent).

EGYPT (U.A.R.)Farm Research (continued)**F4-ENT-6**

Studies of the control of houseflies and mosquitoes by means of chemo-sterilants in Egypt.

University of Cairo, Cairo.

Grant FG-Eg-107 executed July 10, 1965 (eff. 10/6/65). Duration: Three years.

Amount: 44,682 Egyptian pounds (\$89,508. equivalent).

F4-ENT-8(C)

Purchase of synoptic collection of Egyptian insects (includes bees, wasps, beetles, and moths).

Purchased from Dr. Anastase Alfieri, Cairo, December 17, 1965.

Amount: 2,600 Egyptian pounds (\$5,992. equivalent).

FINLANDEconomic Research**E8-ERS-2(k)**

The economics of alternative use of land for agriculture and forestry.

University of Helsinki, Helsinki.

Grant FG-Fi-128 executed July 24, 1961. Duration: Five years.

Amount: 183,100 Finnmarks (\$57,129. equivalent).

Farm Research**E8-CR-9(a)**

Investigation of genetic changes in seed of Finnish-bred forage crop varieties produced in the United States.

Dep't. of Plant Husbandry, University of Helsinki, Viik, Malmi.

Grant FG-Fi-144 executed July 21, 1965 (eff. 1/1/66). Duration: Four years.

Amount: 288,000 Finnmarks (\$89,748. equivalent).

Forestry Research**E8-FS-45**

Population study concerning spruce, with special reference to the variation in the characteristics of wood.

Forest Research Institute, Helsinki.

Grant FG-Fi-130 executed September 12, 1961. Duration: Five years.

Amount: 243,550 Finnmarks (\$75,991. equivalent).

E8-FS-46

The value of alder in adding nitrogen in forest soils.

Institute of Silviculture, School of Agriculture and Forestry,

University of Helsinki, Helsinki.

Grant FG-Fi-131 executed September 25, 1961 (eff. 10/1/61). Duration: Five years.

Amount: 118,410 Finnmarks (\$37,003. equivalent).

FINLANDForestry Research (continued)

E8-FS-47

Induced mutations and polyploidy in birch, Betula spp.

Department of Botany, University of Turku, Turku.

Grant FG-Fi-133 executed October 21, 1961 (eff. 1/1/62). Duration:
Five years.

Amount: 104,900 Finnmarks (\$32,781. equivalent).

E8-FS-48

DNA (deoxyribonucleic acid) and RNA (ribonucleic acid) studies on Scotch pine with special attention to finding a method to increase flowering.

University of Oulu, Oulu.

Grant FG-Fi-142 executed August 3, 1964 (eff. 8/1/64). Duration:
Three years, one month.

Amount: 99,262 Finnmarks (\$31,010. equivalent).

E8-FS-49

The role of soil fungi in the formation of different humus types, especially in raw humus formation in northern forests.

Forest Research Institute, Helsinki.

Grant FG-Fi-132 executed September 12, 1961 (eff. 7/1/62). Duration:
Five years.

Amount: 129,900 Finnmarks (\$40,531. equivalent).

E8-FS-50

Pollen dispersal and its significance in silviculture and genetics.

Forest Research Institute, Helsinki.

Grant FG-Fi-135 executed October 26, 1961. Duration: Five years.

Amount: 161,850 Finnmarks (\$50,578. equivalent).

E8-FS-51

Effect of silvicultural practices upon the arthropod, annelid, and nematode populations in forest litter and soil.

Department of Morphology and Ecology, Institute of Zoology, University of Helsinki, Helsinki.

Grant FG-Fi-129 executed August 15, 1961. Duration: Five years.

Amount: 250,000 Finnmarks (\$78,101. equivalent).

E8-FS-63

Discovery and study of chemical substances in the bark of Pinus silvestris which are attractive to the bark beetle, Blastophagus piniperda L.

Institute for Agricultural and Forest Zoology, University of Helsinki, Helsinki.

Grant FG-Fi-145 executed May 3, 1965. Duration: Two years.

Amount: 80,080 Finnmarks (\$25,002. equivalent).

E8-FS-64

The use of serological technique in detecting incompatibility barriers in the pines.

The Forest Research Institute of Finland, Unioninkatu 40, Helsinki.

Grant FG-Fi-143 executed June 17, 1965. Duration: Two years.

Amount: 82,015 Finnmarks (\$25,606. equivalent).

FINLAND (continued)Marketing Research

E8-AMS-5(a)

The effect of atmospheres with various concentrations of added carbon dioxide or nitrogen upon the properties of refrigerated meat.

Research Centre of Meat Industry, Helsinki.

Grant FG-Fi-137 executed April 5, 1963. Duration: Four years.

Amount: 142,250 Finnmarks (\$44,342. equivalent).

E8-AMS-6(a)

Studies on the effects of pesticides on the storage life, chemical composition, food quality, and nutritive value of plant commodities.

College of Agriculture, University of Helsinki, Helsinki.

Grant FG-Fi-139 executed December 1, 1964. Duration: Five years.

Amount: 309,480 Finnmarks (\$96,441. equivalent).

Utilization Research

UR-E8-(60)-14

A study of the influence of fats and their decomposition products on the flavor and aroma of dry sausage, to obtain information for use in developing improved dry sausage.

Institute of Meat Technology, College of Agriculture, University of Helsinki, Helsinki.

Grant FG-Fi-138 executed April 17, 1963 (eff. 5/1/63). Duration: Five years.

Amount: 275,000 Finnmarks (\$85,723. equivalent).

UR-E8-(10,30)-15

Fundamental studies of organic compounds in plants, especially vegetables and fodder plants, and their enzymic- and chemical-splitting products which often have physiological effects, in order to improve the utilization potential for their products.

Biochemical Institute, Helsinki.

Grant FG-Fi-140 executed May 4, 1964. Duration: Five years.

Amount: 417,105 Finnmarks (\$130,020. equivalent).

UR-E8-(60)-16

Studies of milk produced by cows fed a synthetic diet of urea and/or ammonium salts and purified carbohydrates, to obtain basic information on the factors controlling flavor in milk and milk products.

Biochemical Institute, Helsinki.

Grant FG-Fi-141 executed May 4, 1964. Duration: Five years.

Amount: 421,105 Finnmarks (\$131,267. equivalent).

UR-E8-(60)-17

Basic investigations of the structure, biosynthesis, and maturation of collagen, to provide fundamental knowledge needed to develop new uses for collagen and thus to expand the utilization of hides.

Department of Medical Chemistry, University of Turku, Turku.

Grant FG-Fi-146 executed December 1, 1965. Duration: Three years.

Amount: 160,000 Finnmarks (\$49,860. equivalent).

FRANCEStatistical Reporting Research

E9-SRS-1(a)

Factors of food selection other than nutritional and palatability.

Institut National de la Sante et de la Recherche Medicale, Paris.

Grant FG-Fr-122 executed October 18, 1964. Duration: Three years.

Amount: 184,500 French francs (\$37,653. equivalent).

Utilization Research

UR-E9-(10)-2

Investigations of the constitution, particularly the fatty acid composition, of the lipids of whole wheat, ground wheat, and milling fractions (flour, bran, shorts) and of the changes in these lipids in relation to preprocessing and processing treatments.

Ecole Nationale des Industries Agricoles et Alimentaires, Paris.

Grant FG-Fr-113 executed August 31, 1961 (eff. 1/1/62). Duration: Five years.

Amount: 342,010 French francs (\$69,797. equivalent).

UR-E9-(10)-8

A fundamental study of factors affecting the solubility of wheat gluten proteins in neutral aqueous systems, and of effects of the solubilizing or solubility stabilizing adjuncts on bread-baking characteristics of flours in order to improve and expand the utilization of different flours in baked products.

Centre National de la Recherche Scientifique, Paris.

Grant FG-Fr-114 executed November 13, 1961. Duration: Five years.

Amount: 108,673 French francs (\$22,110. equivalent).

UR-E9-(10)-45

A study of enzyme action in solid natural products in relation particularly to water contents in the range occurring in cereal grains, to provide fundamental information useful in grain processing.

Institut National de la Recherche Agronomique, Paris.

Grant FG-Fr-115 executed November 8, 1961 (eff. 1/1/62). Duration: Five years.

Amount: 303,978 French francs (\$62,034. equivalent).

UR-E9-(60)-46

Investigation of the non-protein nitrogenous substances formed from milk proteins during various industrial treatments of milk.

Institut National de la Recherche Agronomique, Paris.

Grant FG-Fr-112 executed August 3, 1961. Duration: Five years.

Amount: 632,530.50 French francs (\$129,002. equivalent).

UR-E9-(00)-54

Fundamental studies of the enzymatic activities of mildly- and severely-heated bacterial spores, to provide a basis for development of milder methods for heat processing vegetables and other foods.

Institut National de la Recherche Agronomique, Paris.

Grant FG-Fr-121 executed September 26, 1963. Duration: Four years.

Amount: 499,200 French francs (\$101,878. equivalent).

FRANCEUtilization Research (continued)

UR-E9-(60)-79

Investigation of the preparation and properties of some ethylenic fatty derivatives hydroxylated in the allylic position, and branched-chain fatty derivatives with the hydroxyl group on the secondary chain, to obtain new fat-derived compounds that might serve to expand outlets for surplus animal fats.

Universite d'Aix-Marseille, Faculte des Sciences, Marseille.

Grant FG-Fr-119 executed August 20, 1962 (eff. 9/1/62). Duration: Five years.

Amount: 259,765 French francs (\$53,013. equivalent).

UR-E9-(10,60)-80

Studies on the sub-unit structure in nucleic acids, to obtain information on differences in the synthesis of genetically related animal and vegetable proteins, in the interests of wider utilization of milk and grains.

Centre National de la Recherche Scientifique, Paris.

Grant FG-Fr-116 executed December 28, 1961. Duration: Five years.

Amount: 269,050 French francs (\$54,897. equivalent).

UR-E9-(60)-88

A study of products formed in the autoxidation of anhydrous fat below 40°C., to obtain basic information leading to better methods of preservation and expanded utilization of animal fats.

Institut des Corps Gras, Paris.

Grant FG-Fr-123 executed April 25, 1965. Duration: Three years.

Amount: 142,800 French francs (\$29,143. equivalent).

UR-E9-(60)-89

A study of the preparation and properties of polyhalogenated fatty acids and their derivatives, in the interest of increasing industrial uses for animal fats.

Centre National de la Recherche Scientifique, Paris.

Grant FG-Fr-124 executed October 1, 1965 (eff. 1/1/66). Duration: Two and one-half years.

Amount: 182,300 French francs (\$37,204. equivalent).

WEST GERMANYFarm Research

E10-CR-5(a)

Investigation of genetic quality of seed of West German forage-crop varieties produced in the U. S.

Bayerische Landessaatzuchtanstalt, Weiherstephan-Freising.

(Bavarian Seed Breeding Development Institute).

Grant FG-Ge-104 executed March 18, 1965. Duration: Five years.

Amount: 263,975 Deutsche marks West (\$66,359. equivalent).

WEST GERMANY (continued)Marketing Research

E10-AMS-3(a)

Investigations about the antimicrobial action of biphenyl and derivatives of biphenyl on citrus fruit spoilage organisms.

Deutsche Forshungsanstalt für Lebensmittelchemie der Universität, Munich.

Grant FG-Ge-102 executed May 1, 1964. Duration: Five years.

Amount: 306,700 Deutsche marks West (\$77,138. equivalent).

E10-MQ-1(a)

A study of methods for maintaining the germination of seeds over long periods of time.

Förderungsgemeinschaft für Saatgutforschung (Association for the Promotion of Research on Seeds), Reutlingen.

Grant FG-Ge-106 executed April 23, 1965. Duration: Five years.

Amount: 208,200 Deutsche marks West (\$52,338. equivalent).

E10-MQ-3(a)

Biological and environmental factors affecting the physiological maturity of grass seeds.

Samenprüfstelle der Landwirtschaftskammer Westfalen-Lippe, (Seed Testing Station of the Chamber of Agriculture of Westfalia-Lippe), Munster (Westf.).

Grant FG-Ge-105 executed April 30, 1965. Duration: Three years.

Amount: 126,400 Deutsche marks West (\$31,775. equivalent).

Utilization Research

UR-E10-(20)-2

Development of an apparatus for counting neps in cotton web, as an aid to increasing the quality of cotton products.

Deutsches Forschungsinstitut für Textilindustrie, Reutlingen-Stuttgart.

Grant FG-Ge-100 executed April 19, 1962. Duration: Five years.

Amount: 258,080 Deutsche marks West (\$64,633. equivalent).

UR-E10-(60)-3

Investigations of the chemical changes occurring at the surface of the fat globules in stored foam-dried whole milk, to obtain fundamental information for use in the preparation of improved-quality dry whole milk.

Technical University of Berlin, Berlin-West.

Grant FG-Ge-101 executed April 24, 1963. Duration: Four years.

Amount: 193,900 Deutsche marks West (\$48,548. equivalent).

UR-E10-(20)-8

Low-angle X-ray diffraction studies of various fine, coarse, and chemically modified wools, to provide basic information on fiber structure in relation to fiber properties and chemical modification treatments.

German Wool Research Institute, Physical Chemistry Department, Aachen.

Grant FG-Ge-103 executed December 31, 1964. Duration: Four years.

Amount: 224,100 Deutsche marks West (\$56,377. equivalent).

GREECEFarm Research

E11-ENT-1

Control of the olive fly (Dacus oleae (Gmelin)) with radiation or chemical sterilization procedures.

Greek Atomic Energy Commission, Athens.

Grant FG-Gr-102 executed January 21, 1964. Duration: Three years.

Amount: 1,250,000 Greek drachmas (\$41,868. equivalent).

Forestry Research

E11-FS-1

Reconnaissance breeding in certain hard pines of the Mediterranean area.

Department of Forestry, University of Thessaloniki, Thessaloniki.

Grant FG-Gr-100 executed August 20, 1961 (eff. 1/1/62). Duration: Five years.

Amount: 1,653,355 Greek drachmas (\$55,139. equivalent).

E11-FS-2

Nutritional studies of forest trees under various soil and nutrient solution conditions.

Greek Atomic Energy Commission, Nuclear Research Center "Democritus," Athens.

Grant FG-Gr-101 executed May 25, 1963. Duration: Four years.

Amount: 1,249,000 Greek drachmas (\$41,646. equivalent).

INDIAEconomic Research

A7-ERS-11(k)

A study of the impact of changing conditions on grain marketing institutions and structure of grain markets in the Punjab.

College of Agriculture, Punjab Agricultural University, Ludhiana.

Grant FG-In-190 executed April 20, 1964 (eff. 8/10/64). Duration: Three years.

Amount: 286,893 Indian rupees (\$43,814. equivalent).

A7-ERS-12(k)

Evaluation of the impact of land reform in the western region of India on structure of land holdings and farm production potential.

Department of Economics, University of Bombay, Bombay.

Grant FG-In-199 executed July 2, 1964. Duration: Three years.

Amount: 236,500 Indian rupees (\$39,892. equivalent).

A7-ERS-14(k)

The structure and behavior of farm prices in India.

National Council of Applied Economic Research, New Delhi.

Grant FG-In-287 executed February 10, 1966. Duration: Two years.

Amount: 257,232 Indian rupees (\$38,746. equivalent).

INDIA (continued)Farm Research

A7-AE-3

Studies on sewage purification.

M. S. University of Baroda, Baroda.

Grant FG-In-245 executed January 16, 1965. Duration: Five years.

Amount: 146,500 Indian rupees (\$22,032. equivalent).

A7-ADP-5

Development of an efficient vaccine for protecting sheep against sheep pox.

Institute of Veterinary Preventive Medicine, Ranipet, Madras State.

Grant FG-In-203 executed September 23, 1964. Duration: Three years.

Amount: 256,384 Indian rupees (\$47,866. equivalent).

A7-AM-1

Animal climatology research.

Indian Veterinary Research Institute, Izatnagar.

Grant FG-In-113 executed January 30, 1962. Duration: Five years.

Amount: 931,545 Indian rupees (\$163,059. equivalent).

A7-AH-6

Nutritional physiology of different breeds of Indian cattle.

National Dairy Research Institute, Karnal.

Grant FG-In-141 executed October 26, 1962. (eff. 4/20/63). Duration: Five years.

Amount: 273,530 Indian rupees (\$46,436. equivalent).

A7-AH-11

Study of the factors affecting the utilization of low grade roughages and production of volatile fatty acids in the rumen of Indian cattle.

Punjab Agricultural University, Ludhiana, Punjab.

Grant FG-In-130 executed July 19, 1962 (eff. 12/1/62). Duration: Five years.

Amount: 409,180 Indian rupees (\$73,787. equivalent).

A7-AM-15

Effectiveness of different methods of utilizing available sources of germ plasma in improving the productive performance of poultry.

Rajasthan College of Agriculture, University of Udaipur, Udaipur.

Grant FG-In-278 executed January 6, 1966. Duration: Five years.

Amount: 492,220 Indian rupees (\$73,088. equivalent).

A7-AH-18

Investigation on milk and meat potentialities of Indian goats.

Balwant Rajput College, Agra, Uttar Pradesh.

Grant FG-In-216 executed July 30, 1964 (eff. 2/1/65). Duration: Five years.

Amount: 477,815 Indian rupees (\$78,986. equivalent).

INDIAFarm Research (continued)**A7-AH-21**

Evaluation of feedstuffs available in India for protein quality and energy value (using poultry as experimental animals).

College of Agriculture, Punjab Agricultural University, Ludhiana.

Grant FG-In-191 executed April 20, 1964. Duration: Five years.

Amount: 346,166 Indian rupees (\$55,884. equivalent).

A7-AH-23

Collection and evaluation of native fowl germ plasm.

College of Agriculture, Punjab Agricultural University, Ludhiana.

Grant FG-In-206 executed July 7, 1965. Duration: Five years.

Amount: 487,266 Indian rupees (\$72,648. equivalent).

A7-AH-33

Ovarian function and its experimental control in the water buffalo (Bos-bubalis).

Institute of Agriculture, Anand, Gujarat State.

Grant FG-In-273 executed November 26, 1965. Duration: Five years.

Amount: 448,880 Indian rupees (\$67,601. equivalent).

A7-CR-1

Hybridization of cultivated Indian and U. S. sugarcane clones with spontaneums to develop hardy and disease- and pest-resistant basic materials suitable to evolve commercial sugarcanes, and to incorporate maize chromosomes into Saccharum cytoplasm.

Sugarcane Breeding Institute, Coimbatore.

Grant FG-In-170 executed October 10, 1963. Duration: Five years.

Amount: 1,460,397 Indian rupees (\$234,974. equivalent).

A7-CR-2

Study on blast disease of rice (Piricularia oryzae cav.).

Plant Pathology Department, Central Rice Research Institute, Cuttack.

Grant FG-In-114 executed July 4, 1961 (eff. 3/12/62). Duration: Five years.

Amount: 323,585 Indian rupees (\$60,210. equivalent).

A7-CR-3

Citrus dieback in India.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-128 executed November 28, 1961 (eff. 8/25/62). Duration: Five years.

Amount: 510,280 Indian rupees (\$88,290. equivalent).

A7-CR-5

Studies on presence of growth regulators in plant parts with special reference to the roots of water hyacinth and seeds of tropical plants with large endosperm.

Department of Botany, Calcutta University, Calcutta, West Bengal.

Grant FG-In-117 executed March 23, 1962. Duration: Five years.

Amount: 270,150 Indian rupees (\$53,568. equivalent).

INDIAFarm Research (continued)

A7-CR-19

Carbohydrate metabolism in the tapioca plant (Manihot utilissima).

Faculty of Science, Lucknow University, Lucknow.

Grant FG-In-115 executed August 28, 1961. Duration: Five years.

Amount: 158,880 Indian rupees (\$32,180. equivalent).

A7-CR-20

Genetical effects on plants of natural radiations from the Monazite sands of Kerala.

University of Kerala, Trivandrum.

Grant FG-In-116 executed January 19, 1963. Duration: Five years.

Amount: 145,760 Indian rupees (\$26,221. equivalent).

A7-CR-26

Physiology of the reproductive organs of seed plants.

Department of Botany, University of Delhi, Delhi.

Grant FG-In-109 executed May 1, 1961 (eff. 11/1/61). Duration: Five years.

Amount: 285,700 Indian rupees (\$52,938. equivalent).

A7-CR-29

Scheme for the study of microbial population in various soil types, isolation of antibiotics and their use in plant disease control.

University of Agricultural Sciences, Bangalore.

Grant FG-In-129 executed February 28, 1962. Duration: Five years.

Amount: 184,900 Indian rupees (\$36,673. equivalent).

A7-CR-35

Evaluation of peanut varieties, strains and related species of the genus *Arachis* for amino acid composition, quality of oil, and agronomic characters.

Punjab Agricultural University, Ludhiana, Punjab.

Grant FG-In-127 executed November 1, 1962. Duration: Five years.

Amount: 425,345 Indian rupees (\$77,450. equivalent).

A7-CR-37

A survey, collection and physiopathological study of wild and cultivated Cruciferae (mustard family) of India.

Department of Botany, Lucknow University, Lucknow, Uttar Pradesh.

Grant FG-In-220 executed September 2, 1964. Duration: Five years.

Amount: 268,090 Indian rupees (\$56,381. equivalent).

A7-CR-42

Physiological studies on the cell-particulates separated by ultracentrifugation from the tissues of roots and leaves of important crop plants (particularly peanut) grown in normal, saline, and alkaline soils.

Sri Venkateswara University College, Tirupati.

Grant FG-In-140 executed September 13, 1962. Duration: Five years.

Amount: 150,800 Indian rupees (\$28,588. equivalent).

INDIAFarm Research (continued)

A7-CR-50

Study of the biochemical changes in the germination and ripening seeds of cereals and pulses in relation to the metabolism of bound forms of nicotinic acid (niacinogen).

University College of Science, Calcutta University, Calcutta.

Grant FG-In-183 executed January 17, 1964. Duration: Five years.

Amount: 353,300 Indian rupees (\$60,555. equivalent).

A7-CR-52

Chemical screening in the family Solanaceae for steroidal alkaloids, especially solasodine.

Botanical Survey of India, Calcutta.

Grant FG-In-157 executed February 27, 1963 (eff. 8/24/63). Duration: Three years.

Amount: 98,323 Indian rupees (\$20,752. equivalent).

A7-CR-61

Biochemical genetical studies to elucidate "host-parasite relationship" of plant pathogens using technique of 'para sexual recombination in filamentous fungi' (heterokaryosis).

Department of Biochemistry, University of Madras, Madras.

Grant FG-In-168 executed March 15, 1963 (eff. 11/1/63). Duration: Five years.

Amount: 119,200 Indian rupees (\$20,004. equivalent).

A7-CR-65

Studies on plant parasitic nematodes associated with vegetable crops in Uttar Pradesh.

Department of Botany and Zoology, Aligarh Muslim University, Aligarh.

Grant FG-In-225 executed September 17, 1964. Duration: Five years.

Amount: 326,255 Indian rupees (\$54,354. equivalent).

A7-CR-69

Storage, maintenance and distribution of millets germ plasm.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-144 executed October 26, 1962 (eff. 3/1/63). Duration: 5 yrs.

Amount: 443,850 Indian rupees (\$87,865. equivalent).

A7-CR-70

Cataloguing and classifying genetic stocks of sorghums.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-145 executed October 26, 1962 (eff. 3/1/63). Duration: 5 yrs.

Amount: 424,100 Indian rupees (\$72,304. equivalent).

A7-CR-71

Cataloguing and classifying genetic stocks of Pennisetums (pearl millets).

The Indian Agricultural Research Institute, New Delhi.

Grant FG-In-143 executed September 21, 1962 (eff. 4/1/63). Duration: Four years.

Amount: 179,000 Indian rupees (\$36,908. equivalent).

INDIAFarm Research (continued)

A7-CR-72

Research on maize diseases with special reference to Erwinia carotovora var. Zea (a bacterial stalk rot disease).

The Indian Council of Agricultural Research, New Delhi.

Grant FG-In-146 executed December 19, 1962 (eff. 8/1/63). Duration: Five years.

Amount: 551,120 Indian rupees (\$86,722. equivalent).

A7-CR-73

Response of various maize germplasm sources to different agronomic practices.

The Indian Council of Agricultural Research, New Delhi.

Grant FG-In-147 executed December 19, 1962 (eff. 8/1/63). Duration: Five years.

Amount: 893,775 Indian rupees (\$137,504. equivalent).

A7-CR-74

Studies on pyridinonucleotide metabolism in normal tissues and crown-gall tumour of Althaea rosea (Hollyhock).

Department of Biochemistry, M. S. University of Baroda, Baroda.

Grant FG-In-178 executed July 23, 1963 (eff. 9/1/64). Duration: Five years.

Amount: 189,750 Indian rupees (\$29,391. equivalent).

A7-CR-77

Differential competition among strains of Rhizobium japonicum for nodule sites on soybeans.

The University of Burdwan, Burdwan, West Bengal.

Grant FG-In-267 executed August 27, 1965. Duration: Five years.

Amount: 160,500 Indian rupees (\$25,413. equivalent).

A7-CR-81

Physiological studies and use of chemicals for increasing fruit-bud formation on fruit trees which have a tendency to light or alternate bearing.

University of Calcutta, Calcutta.

Grant FG-In-266 executed August 10, 1965 (eff. 1/10/66). Duration: Five years.

Amount: 311,654 Indian rupees (\$49,188. equivalent).

A7-CR-85

Studies on the effects of gibberellic acid, a growth stimulating hormone, on cotton and sorghum.

The Maharaja Sayajirao University of Baroda, Baroda.

Grant FG-In-265 executed July 6, 1965. Duration: Five years.

Amount: 181,348 Indian rupees (\$29,669. equivalent).

INDIAFarm Research (continued)

A7-CR-86

Study of plant parasitic nematodes affecting the rice production in the vicinity of Cuttack, Orissa, India.

Central Rice Research Institute, Cuttack, Orissa.

Grant FG-In-253 executed May 6, 1965. Duration: Two years.

Amount: 85,285 Indian rupees (\$14,322. equivalent).

A7-CR-87

Physiology of seed germination in relation to the early production of ascorbic acid and ascorbic acid oxidase in wheat (Triticum) and peanut (Arachis).

University School of Sciences, Gujarat University, Ahmedabad.

Grant FG-In-182 executed November 27, 1963 (eff. 2/14/64). Duration: Five years.

Amount: 255,700 Indian rupees (\$39,580. equivalent).

A7-CR-92

Viability of pollen, storage methods and serological classification.

The Indian Agricultural Research Institute, New Delhi.

Grant FG-In-195 executed May 30, 1964. Duration: Five years.

Amount: 321,338 Indian rupees (\$52,267. equivalent).

A7-CR-97

Scheme for the collection and identification of fungi of South India.

University of Agricultural Sciences, Bangalore.

Grant FG-In-228 executed October 5, 1964. Duration: Five years.

Amount: 199,750 Indian rupees (\$33,054. equivalent).

A7-CR-98

Investigation on the fungal flora of Eastern India (West Bengal) with special reference to distribution, ecology, cultural characterization, identification and behaviour of some pathogenic fungi on plants of economic importance.

Presidency College, Calcutta.

Grant FG-In-194 executed September 7, 1964 (eff. 1/11/65). Duration: Five years.

Amount: 204,000 Indian rupees (\$34,223. equivalent).

A7-CR-101

Collection, description and identification of specified fungal flora in the Western and Central Himalayas up to Kathmandu in Nepal.

Panjab University, Department of Botany, Chandigarh.

Grant FG-In-235 executed December 4, 1964. Duration: Five years.

Amount: 329,602 Indian rupees (\$50,765. equivalent).

INDIAFarm Research (continued)

A7-CR-102

An extensive cytological analysis of herbs and shrubs of economic importance of the Eastern Himalayas.

University College of Sciences, University of Calcutta, Calcutta.

Grant FG-In-222 executed December 7, 1964. Duration: Five years.

Amount: 360,600 Indian rupees (\$58,732. equivalent).

A7-CR-104

Physiology of disease development in early blights of tomato and egg-plant.

Sri Venkateswara University, Tirupati (A.P.).

Grant FG-In-204 executed June 19, 1964. Duration: Three years.

Amount: 48,760 Indian rupees (\$9,098. equivalent).

A7-CR-106

Ecological studies of noxious weeds, common to India and America, which are becoming an increasing problem in the Upper Gangetic Plains.

Banaras Hindu University, Varanasi, Uttar Pradesh.

Grant FG-In-213 executed August 8, 1964. Duration: Five years.

Amount: 481,288 Indian rupees (\$80,312. equivalent).

A7-CR-108

Physiological studies of drought resistance in some Indian and American varieties of barley.

University School of Sciences, Gujarat University, Ahmedabad.

Grant FG-In-208 executed July 17, 1964. Duration: Five years.

Amount: 307,000 Indian rupees (\$46,056. equivalent).

A7-CR-110

Minerals and the metabolism of plants: The role of major elements, particularly calcium, in the metabolic activities of plants (particularly peanuts and flax).

University of Allahabad, Allahabad.

Grant FG-In-232 executed December 3, 1964. Duration: Five years.

Amount: 189,495 Indian rupees (\$31,592. equivalent).

A7-CR-112

Investigations on virus diseases of sugarcane in relation to sugar industry.

University of Gorakhpur, Gorakhpur, U. P.

Grant FG-In-274 executed December 20, 1965. Duration: Five years.

Amount: 269,305 Indian rupees (\$42,262. equivalent).

A7-CR-114

Biochemical studies on angiosperm parasites -- dodder and witchweed.

Department of Biochemistry, Lucknow University, Lucknow, Uttar Pradesh.

Grant FG-In-219 executed August 27, 1964. Duration: Five years.

Amount: 124,410 Indian rupees (\$19,523. equivalent).

INDIAFarm Research (continued)

A7-CR-115

Chemotherapy of plant viruses with special reference to tobacco mosaic virus.

Botany Department, University of Lucknow, Lucknow, Uttar Pradesh.

Grant FG-In-226 executed September 23, 1964. Duration: Five years.

Amount: 188,300 Indian rupees (\$30,511. equivalent).

A7-CR-117

Studies on the incidence in the air over sugarcane fields of fungus spores pathogenic to the crop.

Erskine College of Natural Sciences, Andhara University, Waltair, A.P.

Grant FG-In-275 executed January 7, 1966 (eff. 3/1/66). Duration:

Three years.

Amount: 68,823 Indian rupees (\$10,909. equivalent).

A7-CR-126

Collection, maintenance and assessment of indigenous genetic stocks of legumes and grasses for fodder, forage, food and conservation purposes.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-234 executed December 5, 1964 (eff. 7/20/65). Duration: Five years.

Amount: 615,975 Indian rupees (\$90,657. equivalent).

A7-CR-128

Maintenance and assessment of indigenous genetic stocks of tropical and subtropical vegetable crops including those of the related wild species.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-236 executed December 5, 1964. Duration: Five years.

Amount: 343,979 Indian rupees (\$50,113. equivalent).

A7-CR-129

Identification of genes conferring resistance to different rusts and the synthesis of new hexaploids with resistance genes in all the three genomes of wheat.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-229 executed October 6, 1964. Duration: Five years.

Amount: 743,398 Indian rupees (\$114,610. equivalent).

A7-CR-130

Cytogenetic investigations on the Indian grass species of the tribe Andropogoneae.

College of Agriculture, Poona.

Grant FG-In-197 executed April 19, 1965. Duration: Five years.

Amount: 170,500 Indian rupees (\$26,490. equivalent).

INDIAFarm Research (continued)

A7-CR-131

Investigations on diseases of sorghum and other important millets.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-214 executed August 24, 1964 (eff. 12/19/64). Duration: Five years.

Amount: 644,178 Indian rupees (\$99,473. equivalent).

A7-CR-132

Genetic studies for the establishment of linkage groups in Pennisetum typhoides (pearl millet).

College of Agriculture, Punjab Agricultural University, Ludhiana.

Grant FG-In-185 executed April 18, 1964. Duration: Five years.

Amount: 258,960 Indian rupees (\$40,836. equivalent).

A7-CR-133

Studies on Helminthosporium species occurring on cereals and other Gramineae, with special reference to species occurring on corn and sorghum in India.

Bihar Agricultural College, Sabour P. O., Bhagalpur, Bihar.

Grant FG-In-223 executed March 27, 1965. Duration: Five years.

Amount: 212,768 Indian rupees (\$33,861. equivalent).

A7-CR-136

Physiological studies on use of chemicals for improvement of methods of rooting hard-to-root tree fruits. (Will use hard-to-root tropical and subtropical fruit plants including mango, lichee, jack fruit, pomelo, guava, and custard apple, with easy-to-root mulberry as a reference plant).

Department of Agriculture, University of Calcutta, Calcutta.

Grant FG-In-246 executed March 3, 1965. Duration: Five years.

Amount: 222,018 Indian rupees (\$35,873. equivalent).

A7-CR-137

Genetic evaluation of grain and fodder quality of Pennisetum spp.

Punjab Agricultural University, Ludhiana.

Grant FG-In-201 executed May 25, 1964. Duration: Five years.

Amount: 433,672 Indian rupees (\$70,231. equivalent).

A7-CR-138

Studies on the adaptation of fungi to fungicides.

Andhra Pradesh Agricultural University, Hyderabad.

Grant FG-In-221 executed September 15, 1964. (eff. 11/20/64).

Duration: Three years.

Amount: 44,555 Indian rupees (\$7,951. equivalent).

A7-CR-140

Maintenance and assessment of genetic stocks of the pome and stone fruits including those of the related wild species.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-212 executed August 22, 1964 (eff. 8/2/65). Duration: 5 yrs.

Amount: 531,534 Indian rupees (\$79,555. equivalent).

INDIAFarm Research (continued)

A7-CR-143

Development of a microchemical method for determining gum content in guar (Cyamopsis tetragonoloba L. Taub.) and the collection and isolation of superior genotypes.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-207 executed July 27, 1964 (eff. 12/23/64). Duration:

Five years.

Amount: 334,025 Indian rupees (\$49,382. equivalent).

A7-CR-148

Assessment and maintenance of genetic stocks of cultivated and wild Cruciferae with special reference to Brassicaceae.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-233 executed December 4, 1964 (eff. 5/3/65). Duration:

Five years.

Amount: 298,235 Indian rupees (\$42,984. equivalent).

A7-CR-163

Nematode parasites of the great millet and pearl millet and evaluation of varieties for nematode resistance.

Department of Zoology, University of Jodhpur, Jodhpur.

Grant FG-In-263 executed June 30, 1965. Duration: Three years.

Amount: 136,386 Indian rupees (\$22,482. equivalent).

A7-CR-185

Studies on chemical mutagenesis of rice.

Central Rice Research Institute, Cuttack, Orissa.

Grant FG-In-289 executed June 15, 1966. Duration: Three years.

Amount: 111,106 Indian rupees (\$14,814. equivalent).

A7-CR-193

Cytological investigations on the economic plants (which yield fiber, oils, tanning materials, gums, spices, dyes, drugs, and food and forage materials) of the Western Himalayas.

Department of Botany, Panjab University, Chandigarh.

Grant FG-In-281 executed January 19, 1966. Duration: Five years.

Amount: 485,532 Indian rupees (\$71,804. equivalent).

A7-CR-201

The biochemistry of reproduction in higher plants.

Department of Botany, University of Delhi, Delhi.

Grant FG-In-283 executed June 16, 1966. Duration: Five years.

Amount: 402,704 Indian rupees (\$53,694. equivalent).

INDIAFarm Research (continued)

A7-CR-216

Development of techniques for selective isolation of Fusarium and Rhizoctonia species from soil and their application to study of population dynamics of these fungi in the soil.

College of Agriculture and Experiment Station, U. P. Agricultural University, Pantnagar, Nainital, U. P.

Grant FG-In-290 executed April 26, 1966. Duration: Five years.

Amount: 71,200 Indian rupees (\$9,493. equivalent).

A7-CR-222

Detection of viruses in the foundation seed-stock and production of virus-free seeds and seed-stock.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-286 executed May 26, 1966. Duration: Five years.

Amount: 427,887 Indian rupees (\$57,052. equivalent).

A7-ENT-1

Investigations of parasites, predators and pathogens of sugarcane borers in India.

Commonwealth Institute of Biological Control, Bangalore.

Grant FG-In-110 executed July 25, 1961. Duration: Five years.

Amount: 444,088 Indian rupees (\$91,393. equivalent).

A7-ENT-2

Survey of beneficial parasites and predators of agricultural and horticultural crop pests in the Indian Union.

Ministry of Food and Agriculture, Indian Agricultural Research Institute, New Delhi.

Grant FG-In-102 executed April 13, 1961 (eff. 11/14/61). Duration: Five years.

Amount: 591,212 Indian rupees (\$111,086. equivalent).

A7-ENT-6

Nutritional and physiological studies on insects, using the silkworm Bombyx mori L. as the experimental insect.

Indian Institute of Science, Bangalore.

Grant FG-In-149 executed January 15, 1963. Duration: Five years.

Amount: 177,794 Indian rupees (\$32,455. equivalent).

A7-ENT-7

Survey for natural enemies of witchweed, and of water hyacinth and other weeds affecting waterways in India.

Commonwealth Institute of Biological Control, Indian Station, Bangalore.

Grant FG-In-108 executed February 20, 1962 (eff. 8/1/62). Duration: Five years.

Amount: 493,050 Indian rupees (\$100,651. equivalent).

INDIAFarm Research (continued)

A7-ENT-8

Developing methods for large-scale rearing of parasites under laboratory conditions.

Institute of Agriculture, Anand, Gujarat.

Grant FG-In-166 executed April 4, 1963. Duration: Five years.

Amount: 205,640 Indian rupees (\$37,671. equivalent).

A7-ENT-9

Investigation of parasites, predators and pathogens of the European corn borer and Heliothis spp. in India.

Commonwealth Institute of Biological Control, Indian Station, Bangalore.

Grant FG-In-104 executed February 20, 1962 (eff. 3/1/62). Duration: Five years.

Amount: 326,620 Indian rupees (\$65,474. equivalent).

A7-ENT-10

Acarine disease problem of honey bees.

Punjab Agricultural University, Ludhiana, Punjab.

Grant FG-In-103 executed November 25, 1960 (eff. 1/17/62). Duration: Five years.

Amount: 163,332 Indian rupees (\$30,539. equivalent).

A7-ENT-14

Studies on the free amino acids of insect hemolymph and the accumulation of citric acids in insect tissues.

Department of Chemistry, University of Allahabad, Allahabad.

Grant FG-In-196 executed May 1, 1964. Duration: Five years.

Amount: 172,755 Indian rupees (\$28,611. equivalent).

A7-ENT-17

Methods of control of the coconut rhinoceros beetle, Oryctes rhinoceros L.

Indian Central Coconut Research Station, Kayangulam, Kerala.

Grant FG-In-154 executed March 20, 1963. Duration: Five years.

Amount: 389,252 Indian rupees (\$67,440. equivalent).

A7-ENT-19

Biology, ecology and utilization of insects other than honeybees in the pollination of agricultural crops.

College of Agriculture, Punjab Agricultural University, Ludhiana.

Grant FG-In-215 executed February 17, 1965. Duration: Five years.

Amount: 256,818 Indian rupees (\$39,265. equivalent).

A7-ENT-20

Studies on microbiology and pathology of insect pests of crop plants.

University of Agricultural Sciences, Bangalore.

Grant FG-In-150 executed November 21, 1962 (eff. 4/1/63). Duration: Five years.

Amount: 142,300 Indian rupees (\$26,168. equivalent).

INDIAFarm Research (continued)

A7-ENT-22

Studies of Indian Jassidae with particular reference to Circulifer and related genera and their importance as vectors of plant virus diseases.

Punjab Agricultural University, Ludhiana.

Grant FG-In-300 executed June 22, 1966. Duration: Five years.

Amount: 243,130 Indian rupees (\$32,417. equivalent).

A7-ENT-24

Systematic and biological studies of Indian thrips.

Department of Zoology, Loyola College, Madras.

Grant FG-In-167 executed February 27, 1963. Duration: Five years.

Amount: 241,900 Indian rupees (\$45,463. equivalent).

A7-ENT-25

Research on insect pests of maize with special reference to stalk borers.

The Indian Council of Agricultural Research, New Delhi.

Grant FG-In-148 executed December 19, 1962 (eff. 4/22/64). Duration: Five years.

Amount: 584,520 Indian rupees (\$89,327. equivalent).

A7-ENT-26

Biology of gall midges affecting mangoes with special reference to the extent of damage.

Department of Zoology, University of Allahabad, Allahabad.

Grant FG-In-180 executed September 23, 1963. Duration: Five years.

Amount: 275,050 Indian rupees (\$46,918. equivalent).

A7-ENT-28

Taxonomic studies of several families of Mallophaga (chewing lice).

Department of Zoology, University of Lucknow, Lucknow.

Grant FG-In-179 executed September 16, 1963 (eff. 10/1/63). Duration: Four years.

Amount: 86,220 Indian rupees (\$13,092. equivalent).

A7-ENT-29

A study of the taxonomy of adult and larval Bruchidae.

Department of Zoology, Panjab University, Chandigarh.

Grant FG-In-184 executed February 26, 1964. Duration: Five years.

Amount: 220,010 Indian rupees (\$35,938. equivalent).

A7-ENT-31

Investigations on insect pests of sorghum and millets.

The Indian Agricultural Research Institute, New Delhi.

Grant FG-In-227 executed October 28, 1964. Duration: Five years.

Amount: 865,470 Indian rupees (\$128,863. equivalent).

A7-ENT-33

Hereditary variations in the ability of Myzus persicae to transmit potato leafroll and virus 'Y'.

Central Potato Research Institute, Simla.

Grant FG-In-217 executed June 30, 1965. Duration: Three years.

Amount: 98,666 Indian rupees (\$16,340. equivalent).

INDIAFarm Research (continued)

A7-ENT-35

Biology of gall midges affecting citrus plants with special reference to the extent of damage.

University of Allahabad, Allahabad.

Grant FG-In-211 executed August 11, 1964. Duration: Three years.

Amount: 78,930 Indian rupees (\$15,738. equivalent).

A7-ENT-37

Taxonomic survey of the hymenopterous parasites belonging to the family Ichneumonidae in India (Insecta: Parasitic Hymenoptera).

University of Delhi, Department of Zoology, Delhi.

Grant FG-In-241 executed December 25, 1964. Duration: Five years.

Amount: 310,197 Indian rupees (\$52,123. equivalent).

A7-ENT-40

A study of factors affecting the dissemination of the predatory beetle, Coccinella septempunctata.

College of Agriculture, Andhra Pradesh Agricultural University, Hyderabad.

Grant FG-In-249 executed March 30, 1965 (eff. 7/1/65). Duration: Five years.

Amount: 247,940 Indian rupees (\$39,582. equivalent).

A7-ENT-42

Survey for natural enemies of aphids in India.

Commonwealth Institute of Biological Control, Bangalore.

Grant FG-In-218 executed October 1, 1964. Duration: Five years.

Amount: 559,495 Indian rupees (\$89,977. equivalent).

A7-ENT-44

Physiological factors governing susceptibility or resistance of crop plants to leafhoppers.

Department of Zoology, University of Delhi, Delhi.

Grant FG-In-257 executed July 13, 1965. Duration: Five years.

Amount: 536,323 Indian rupees (\$88,339. equivalent).

A7-ENT-47

Biology of gall midges affecting fig fruits with special reference to the extent of damage and its relationship to the spread of disease organisms.

University of Allahabad, Allahabad, U. P.

Grant FG-In-261 executed July 1, 1965. Duration: Four years.

Amount: 206,482 Indian rupees (\$32,590. equivalent).

A7-ENT-51

Studies on the systematics of the aphid genus Macrosiphum (Homoptera-Aphidae).

Department of Zoology, Madras Christian College, Madras.

Grant FG-In-295 executed May 16, 1966. Duration: Five years.

Amount: 197,750 Indian rupees (\$26,367. equivalent).

INDIAFarm Research (continued)

A7-SWC-7

A study of the soil algae of the rice fields and their contribution to the fertility of the soil.

University of Allahabad, Botany Department, Allahabad.

Grant FG-In-138 executed June 27, 1962. Duration: Five years.

Amount: 105,450 Indian rupees (\$20,883. equivalent).

A7-SWC-17

Molybdenum and iron as plant nutrients.

Department of Botany, The University of Lucknow, Lucknow.

Grant FG-In-151 executed March 2, 1963. Duration: Five years.

Amount: 280,200 Indian rupees (\$53,008. equivalent).

A7-SWC-29

Investigations on soil structure as influenced by organic matter with the help of microscopic and other techniques.

The Indian Agricultural Research Institute, New Delhi.

Grant FG-In-198 executed May 30, 1964. Duration: Five years.

Amount: 133,200 Indian rupees (\$21,152. equivalent).

A7-SWC-33

Ecological specialization in microorganisms native to alkaline soils.

University of Lucknow, Lucknow, U. P.

Grant FG-In-271 executed May 13, 1966. Duration: Five years.

Amount: 175,400 Indian rupees (\$23,387. equivalent).

A7-SWC-47

The influence of oxygen level and mechanical impedance as related to the plant growth and tillage requirements of flooded paddy (rice).

Department of Agricultural Engineering, Indian Institute of Technology, Kharagpur.

Grant FG-In-291 executed April 14, 1966. Duration: Five years.

Amount: 250,102 Indian rupees (\$33,347. equivalent).

Forestry Research

A7-FS-3

Working qualities of Indian timbers.

Forest Research Institute, Dehra Dun.

Grant FG-In-107 executed November 25, 1960 (eff. 10/10/62). Duration:

Amount: 338,210 Indian rupees (\$58,444. equivalent). Five years.

A7-FS-4

Studies of density and fiber characteristics of Indian timbers as indicators of wood quality.

Forest Research Institute and Colleges, Dehra Dun.

Grant FG-In-205 executed August 24, 1964. Duration: Five years.

Amount: 160,140 Indian rupees (\$23,579. equivalent).

INDIAForestry Research (continued)

A7-FS-5

Accelerated laboratory investigations on durability of wood.

Forest Research Institute, Dehra Dun.

Grant FG-In-106 executed November 25, 1960 (eff. 6/23/62).

Duration: Five years.

Amount: 201,610 Indian rupees (\$38,187. equivalent).

A7-FS-6

Accelerated laboratory investigations on termite resistance of woods.

Forest Research Institute, Dehra Dun.

Grant FG-In-101 executed November 25, 1960 (eff. 4/5/63).

Duration: Five years.

Amount: 162,770 Indian rupees (\$27,851. equivalent).

A7-FS-8

Survey for parasites of the gypsy moth.

Commonwealth Institute of Biological Control, Bangalore.

Grant FG-In-112 executed July 25, 1961. Duration: Five years.

Amount: 414,000 Indian rupees (\$84,754. equivalent).

A7-FS-10

Investigations on Mycorrhiza-forming fungi with special reference to conifers in India.

Forest Research Institute and Colleges, Dehra Dun, Uttar Pradesh.

Grant FG-In-132 executed April 26, 1962 (eff. 8/1/62). Duration:

Five years.

Amount: 203,288 Indian rupees (\$36,321. equivalent).

A7-FS-11

Investigations on the use of auxins in vegetative reproduction of forest plants.

Panjab University, Chandigarh, Punjab.

Grant FG-In-255 executed April 29, 1965. Duration: Five years.

Amount: 417,410 Indian rupees (\$72,416. equivalent).

A7-FS-12

Cytology of some Himalayan hardwoods and cytological and morphological differences or similarities in ecotypes or clines of Himalayan forest trees.

Botany Department, Panjab University, Chandigarh.

Grant FG-In-131 executed February 24, 1962. Duration: Five years.

Amount: 457,770 Indian rupees (\$84,658. equivalent).

A7-FS-15

Cooperative tree improvement research on teak.

Forest Research Institute and Colleges, Dehra Dun.

Grant FG-In-272 executed February 23, 1966. Duration: Five years.

Amount: 82,000 Indian rupees (\$11,787. equivalent).

INDIAForestry Research (continued)

A7-FS-16

Cause and alleviation of refractoriness of hardwoods to seasoning.

Forest Research Institute and Colleges, Dehra Dun, U. P.

Grant FG-In-277 executed July 31, 1965. Duration: Five years.

Amount: 282,514 Indian rupees (\$37,669. equivalent).

A7-FS-25

Survey for natural enemies of Hypsipyla robusta (shoot borers).

Commonwealth Institute of Biological Control, Bangalore.

Grant FG-In-169 executed April 13, 1964 (eff. 7/25/64). Duration:
Five years.

Amount: 283,825 Indian rupees (\$47,481. equivalent).

A7-FS-27

An investigation of the phenolic constituents of certain woods and barks, including North American species, and representatives of genera common to North America and India.

Department of Chemistry, University of Delhi, Delhi.

Grant FG-In-210 executed August 22, 1964. Duration: Five years.

Amount: 495,905 Indian rupees (\$80,828. equivalent).

A7-FS-28

Biochemical studies on members of the Loranthaceae parasitic on forest and fruit trees.

Department of Biochemistry, University of Lucknow, Lucknow.

Grant FG-In-200 executed June 3, 1964. Duration: Five years.

Amount: 196,789 Indian rupees (\$37,233. equivalent).

A7-FS-35

Techniques for inducing mutations and polyploidy in some hardwood and conifer species of importance in forestry.

Forest Research Institute and Colleges, Dehra Dun.

Grant FG-In-256 executed July 28, 1965. Duration: Five years.

Amount: 174,605 Indian rupees (\$27,025. equivalent).

A7-FS-36

Tissue and cell culture of pines and allied conifers.

Department of Botany, University of Delhi, Delhi.

Grant FG-In-250 executed March 30, 1965. Duration: Five years.

Amount: 336,865 Indian rupees (\$54,408. equivalent).

A7-FS-42

Wood phenolics with special reference to their use in chemotaxonomy, and their biosynthesis by tissue culture studies.

National Chemical Laboratory, Poona.

Grant FG-In-298 executed May 12, 1966. Duration: Three years.

Amount: 635,200 Indian rupees (\$84,693. equivalent).

INDIAForestry Research (continued)

A7-FS-47

Studies on the population dynamics of the predators of Adelges spp. on silver fir and spruce in the Himalayas.

Commonwealth Institute of Biological Control, Indian Station, Bangalore.

Grant FG-In-270 executed March 1, 1966. Duration: Five years.

Amount: 383,580 Indian rupees (\$55,806. equivalent).

Human Nutrition Research

A7-HN-4(k)

Metabolism of ascorbic acid.

Department of Applied Chemistry, University of Calcutta, Calcutta.

Grant FG-In-172 executed September 25, 1963. Duration: Five years.

Amount: 423,100 Indian rupees (\$75,477. equivalent).

A7-HN-5(k)

Biochemical and nutritional studies of leaf proteins.

University College of Science and Technology, University of Calcutta, Calcutta.

Grant FG-In-173 executed September 25, 1963. Duration: Five years.

Amount: 192,000 Indian rupees (\$32,351. equivalent).

A7-HN-6(k)

Effect of protein malnutrition and of different protein foods on learning performance.

Department of Biochemistry, M. S. University of Baroda, Baroda.

Grant FG-In-176 executed July 23, 1963 (eff. 3/1/64). Duration: Five years.

Amount: 223,090 Indian rupees (\$41,189. equivalent).

A7-HN-8(k)

Studies of hormonal regulation of cholesterol and fat metabolism.

University Colleges of Science and Technology, University of Calcutta, Calcutta.

Grant FG-In-181 executed March 12, 1964. Duration: Five years.

Amount: 375,000 Indian rupees (\$66,040. equivalent).

A7-HN-10(k)

Ascorbic acid secretion during lactation.

M. S. University of Baroda, Baroda.

Grant FG-In-224 executed September 15, 1964. Duration: Five years.

Amount: 147,640 Indian rupees (\$23,055. equivalent).

A7-HN-14(k)

The influence of quality and quantity of dietary proteins on the lipid metabolism.

Vallabhbhai Patel Chest Institute, University of Delhi, Delhi.

Grant FG-In-264 executed April 23, 1966. Duration: Five years.

Amount: 266,720 Indian rupees (\$35,563. equivalent).

INDIAHuman Nutrition Research (continued)

A7-HN-15(a)

Protein nutrition and lipid metabolism in Rhesus monkeys.

Department of Pathology, All-India Institute of Medical Sciences,
New Delhi.

Grant FG-In-251 executed April 26, 1965. Duration: Three years.
Amount: 88,675 Indian rupees (\$13,851. equivalent).

A7-HN-17(k)

Iodine requirements and iodine stores in humans.

Department of Pathology, All-India Institute of Medical Sciences,
New Delhi.

Grant FG-In-252 executed April 26, 1965. Duration: Three years.
Amount: 60,090 Indian rupees (\$9,041. equivalent).

Marketing Research

A7-AMS-6(k)

Post-harvest diseases of tropical and subtropical fruits.

University of Allahabad, Botany Department, Allahabad.

Grant FG-In-133 executed June 20, 1962. Duration: Five years.
Amount: 140,486 Indian rupees (\$26,371. equivalent).

A7-AMS-12(a)

Studies in the "Canary Coloration" of raw wools.

Shri Ram Institute for Industrial Research, Delhi.

Grant FG-In-175 executed August 29, 1963. Duration: Five years.
Amount: 438,900 Indian rupees (\$75,503. equivalent).

A7-MQ-1(a)

Resistance to two major stored grain pests in world collection of wheat.

Indian Agricultural Research Institute, New Delhi.

Grant FG-In-230 executed December 31, 1964. Duration: Three years.
Amount: 72,096 Indian rupees (\$11,338. equivalent).

A7-MQ-2(a)

X-ray analysis of the anatomy and viability of seeds of some economic plants with a view to standardize rapid techniques of value in seed testing.

The Indian Agricultural Research Institute, New Delhi.

Grant FG-In-231 executed November 5, 1964 (eff. 10/16/65). Duration:
Five years.

Amount: 178,628 Indian rupees (\$27,391. equivalent).

A7-MQ-3(a)

Investigation on the physiology of the khapra beetle, Trogoderma granarium, with emphasis on fat metabolism.

The Maharaja Sayajirao University of Baroda, Baroda.

Grant FG-In-242 executed December 25, 1964. Duration: Five years.
Amount: 161,400 Indian rupees (\$26,910. equivalent).

INDIAMarketing Research (continued)

A7-MQ-6(k)

Metabolic changes in the storage and ripening of mangos.

Department of Microbiology, M. S. University of Baroda, Baroda.

Grant FG-In-276 executed January 7, 1966. Duration: Five years.

Amount: 214,840 Indian rupees (\$32,893. equivalent).

A7-MQ-7(a)

Studies on Aspergillus flavus with special reference to the determination of role of aflatoxin in its metabolism.

Vallabhbhai Patel Chest Institute, University of Delhi, Delhi.

Grant FG-In-259 executed May 2, 1965. Duration: Five years.

Amount: 389,373 Indian rupees (\$61,070. equivalent).

Utilization Research

UR-A7-(40)-3

A study of the relationship of substituent fatty acid groups to the physical properties of diacid triglycerides of palmitic and stearic acids, as a means of increasing the utilization of cottonseed oil for food and industrial purposes.

Department of Chemical Technology, University of Bombay, Bombay.

Grant FG-In-118 executed April 1, 1962. Duration: Five years.

Amount: 186,670 Indian rupees (\$38,070. equivalent).

UR-A7-(20)-4

Investigation of the photochemical degradation of cotton, to derive information which would enhance the utilization of cotton.

Department of Chemical Technology, University of Bombay, Bombay.

Grant FG-In-119 executed April 1, 1962. Duration: Five years.

Amount: 198,550 Indian rupees (\$40,036. equivalent).

UR-A7-(60)-5

Studies on the isolation and use of milk coagulating enzymes of microbiological origin for cheese manufacture.

National Dairy Research Institute, Karnal, Punjab.

Grant FG-In-105 executed November 25, 1960 (eff. 9/18/62). Duration: Five years.

Amount: 242,230 Indian rupees (\$40,431. equivalent).

UR-A7-(10)-9

Collection and isolation of molds belonging to the order Mucorales, and classification of the isolates, in order to find microorganisms suitable for fermentative processes of importance in cereal grain utilization.

Botany Department, University of Allahabad, Allahabad.

Grant FG-In-121 executed December 11, 1961. Duration: Five years.

Amount: 81,100 Indian rupees (\$16,104. equivalent).

INDIAUtilization Research (continued)

UR-A7-(10)-10

A study of survival and possible genetic change in industrially useful microorganisms subjected to lyophilization, to obtain basic information needed for the maintenance of culture collections for industrial fermentation of cereal grains.

Botany Department, University of Allahabad, Allahabad.

Grant FG-In-122 executed December 11, 1961 (eff. 7/11/62). Duration:
Five years.

Amount: 82,100 Indian rupees (\$16,829. equivalent).

UR-A7-(60)-11

Investigations of sulfur compounds in milk and milk products, and their relation to "cooked" flavors and oxidative stability, to obtain fundamental information needed in the preparation of high-quality stable milk products.

National Dairy Research Institute, Karnal.

Grant FG-In-134 executed June 19, 1962 (eff. 9/23/63). Duration:
Five years.

Amount: 356,460 Indian rupees (\$58,488. equivalent).

UR-A7-(40)-12

Investigation of the effect of heat on tung oil and derivatives of tung oil, and the characterization and identification of compounds resulting from heat treatments, to extend the utilization of tung oil.

National Chemical Laboratory, Poona.

Grant FG-In-123 executed June 19, 1962 (eff. 8/1/63). Duration:
Five years.

Amount: 231,500 Indian rupees (\$36,508. equivalent).

UR-A7-(60)-13

Investigations of the addition of nonfat dry milk solids to buffalo milk in the manufacture of hard cheese.

Kaira District Cooperative Milk Producers Union, Ltd., Anand.

Grant FG-In-124 executed September 15, 1961 (eff. 2/8/63). Duration:
Five years.

Amount: 348,200 Indian rupees (\$53,318. equivalent).

UR-A7-(20)-15

Study of molecular processes of organic compounds containing atomic groupings similar to those present in wool, by measurement of ultrasonic absorption in the liquid state at frequencies below one megacycle.

Physics Department, University of Allahabad, Allahabad.

Grant FG-In-164 executed June 10, 1963 (eff. 10/1/63). Duration:
Five years.

Amount: 225,100 Indian rupees (\$46,949. equivalent).

INDIAUtilization Research (continued)

UR-A7-(60)-16

Structural studies on phosphoproteins, to obtain fundamental information applicable to expanding the utilization of milk.

Indian Institute of Science, Bangalore.

Grant FG-In-160 executed January 16, 1963 (eff. 9/2/63). Duration:
Five years.

Amount: 266,884 Indian rupees (\$44,902. equivalent).

UR-A7-(60)-17

Studies on the mode of reaction of polyphenolic tanning compounds with hide proteins (collagen) to obtain fundamental information for developing heavy leather with improved properties.

Central Leather Research Institute, Madras.

Grant FG-In-125 executed October 16, 1961 (eff. 9/20/62). Duration:
Five years.

Amount: 181,000 Indian rupees (\$33,034. equivalent).

UR-A7-(60)-18

Studies of the interrelation of hide quality with the rate of tanning and the efficiency of tanning, to obtain information for use in developing improved processes for making leather.

Central Leather Research Institute, Madras.

Grant FG-In-126 executed October 16, 1961 (eff. 9/20/62). Duration:
Five years.

Amount: 128,000 Indian rupees (\$25,509. equivalent).

UR-A7-(20)-19

A study of the relation between fine structure and mechanical properties of cotton fibers by swelling and stretching treatments, as a means of improving the properties and thereby increasing the utilization of cotton.

Ahmedabad Textile Industry's Research Association (ATIRA),
Ahmedabad.

Grant FG-In-139 executed August 17, 1962. Duration: Five years.

Amount: 202,129 Indian rupees (\$36,733. equivalent).

UR-A7-(10)-20

Investigations on the preparation and characterization of new copolymers of cereal starch with other polysaccharides by heating mixtures in the dry state, to provide basic information for the development of new starch products suited for industrial applications.

Ahmedabad Textile Industry's Research Association, Ahmedabad.

Grant FG-In-165 executed January 12, 1963. Duration: Five years.

Amount: 176,249 Indian rupees (\$30,694. equivalent).

INDIAUtilization Research (continued)

UR-A7-(40)-21

Exploratory investigations of selected hydroxylated derivatives of linseed and safflower oils, to determine the feasibility of producing new industrial products from these oils.

Regional Research Laboratory, Hyderabad.

Grant FG-In-153 executed November 21, 1962 (eff. 7/15/63).

Duration: Five years.

Amount: 114,940 Indian rupees (\$22,510. equivalent).

UR-A7-(60)-22

Isolation and characterization of the components of the proteose-peptone fraction of milk.

National Dairy Research Institute, Karnal.

Grant FG-In-137 executed June 23, 1962 (eff. 6/20/63). Duration:

Five years.

Amount: 339,460 Indian rupees (\$55,768. equivalent).

UR-A7-(10)-25

Investigations on the separation of grain sorghum proteins into homogeneous protein components, to provide basic information for further characterization and application studies.

Indian Institute of Science, Bangalore.

Grant FG-In-159 executed January 16, 1963 (eff. 11/1/63). Duration:

Five years.

Amount: 173,184 Indian rupees (\$30,415. equivalent).

UR-A7-(40)-26

Studies of the addition of carbenes to unsaturated fatty materials derived from cottonseed oil, to provide possible new outlets for the utilization of cottonseed oil.

Indian Institute of Science, Bangalore.

Grant FG-In-161 executed January 15, 1963 (eff. 7/1/63). Duration:

Five years.

Amount: 197,245 Indian rupees (\$32,702. equivalent).

UR-A7-(60)-27

Determination of changes in the physicochemical properties of hen egg yolk proteins caused by freezing, to provide information which may make possible new and improved yolk-containing frozen egg products.

Indian Institute of Science, Bangalore.

Grant FG-In-162 executed January 16, 1963 (eff. 9/3/63). Duration:

Five years.

Amount: 225,684 Indian rupees (\$38,310. equivalent).

INDIAUtilization Research (continued)

UR-A7-(40)-28

Investigation of the synthesis and properties of new-type glycol mono alkyl ethers for the control of water evaporation, to extend the industrial utilization of cottonseed oil.

National Chemical Laboratory, Poona.

Grant FG-In-158 executed January 26, 1963 (eff. 1/20/64). Duration: Five years.

Amount: 441,800 Indian rupees (\$70,160. equivalent).

UR-A7-(20)-30

Investigation of new solvents for molecular weight determination of cellulose, to obtain basic information needed to improve cotton products and thereby enhance the utilization of cotton.

University of Bombay, Department of Chemical Technology, Bombay.

Grant FG-In-136 executed June 25, 1962 (eff. 8/2/62). Duration: Four years.

Amount: 147,300 Indian rupees (\$29,786. equivalent).

UR-A7-(50)-31

Fundamental studies of the reaction of sucrose with various sulfonyl chlorides and other chemicals to provide monomers for use in synthesis of new and useful polymers, in order to increase the utilization of sugar crops.

College of Engineering and Technology, Jadavpur University, Calcutta.

Grant FG-In-135 executed June 11, 1962. Duration: Five years.

Amount: 296,650 Indian rupees (\$57,879. equivalent).

UR-A7-(20)-32

Investigation of the microbial decomposition of cellulose with special reference to the effect of Indian bacterial organisms on cotton and cotton fabrics, to provide basic information for the improvement of cotton products.

Technological Laboratory, Indian Central Cotton Committee, Matunga, Bombay.

Grant FG-In-155 executed January 3, 1963. Duration: Four years.

Amount: 144,213 Indian rupees (\$25,444. equivalent).

UR-A7-(20)-33

Investigation of the preparation of radioresistant and radiosensitive celluloses to obtain basic information on the chemistry of cotton cellulose.

Indian Central Cotton Committee, Bombay.

Grant FG-In-186 executed April 25, 1964. Duration: Five years.

Amount: 353,000 Indian rupees (\$54,334. equivalent).

INDIAUtilization Research (continued)

UR-A7-(30)-39

Investigation of the protein, amino acid, and biologically active components of dry beans, to provide information necessary for the development of new and improved processes and products leading to increased utilization of dry beans.

Chemistry Department, Allahabad University, Allahabad.

Grant FG-In-188 executed April 1, 1964. Duration: Five years.

Amount: 198,625 Indian rupees (\$32,571. equivalent).

UR-A7-(60)-42

Preparation of polypeptidyl derivatives of collagen and determination of their physicochemical properties, to obtain information for use in developing leathers with improved properties.

Central Leather Research Institute, Madras.

Grant FG-In-282 executed January 29, 1966. Duration: Five years.

Amount: 243,234 Indian rupees (\$35,844. equivalent).

UR-A7-(60)-43

Studies on the hydrothermal shrinkage of collagen and leather, to obtain fundamental information about this phenomenon for use in developing leathers with improved properties.

Central Leather Research Institute, Madras.

Grant FG-In-174 executed July 20, 1963 (eff. 1/23/64). Duration: Three years.

Amount: 57,500 Indian rupees (\$11,428. equivalent).

UR-A7-(20)-46

A study of the physical chemistry and thermodynamics of solution and vapor adsorption on and in the cotton fiber, to obtain basic information needed to improve cotton processing and utilization.

Ahmedabad Textile Industry's Research Association, Ahmedabad.

Grant FG-In-192 executed March 31, 1964. Duration: Five years.

Amount: 192,311 Indian rupees (\$30,869. equivalent).

UR-A7-(10)-48

A study of factors influencing dipicolinic acid synthesis in bacterial spores of graded heat resistance, to obtain information for use in preparing improved milk and other food products.

Uttar Pradesh Agricultural University, Pant Nagar, District Nainital.

Grant FG-In-189 executed February 1, 1965. Duration: Five years.

Amount: 553,545 Indian rupees (\$83,462. equivalent).

UR-A7-(20)-51

Investigation of means to minimize fiber hooked ends in cotton card and drawing slivers to develop processing organization of optimum efficiency, and thus to promote increased utilization of cotton.

Ahmedabad Textile Industry's Research Association, Ahmedabad.

Grant FG-In-171 executed July 19, 1963. Duration: Four years.

Amount: 103,900 Indian rupees (\$19,608. equivalent).

INDIAUtilization Research (continued)

UR-A7-(30)-56

Studies of organic acid metabolism in fruit tissues, leading to development of processing methods yielding fruit products of improved flavor and texture.

Department of Biochemistry, M. S. University of Baroda, Baroda.

Grant FG-In-258 executed April 29, 1965. Duration: Five years.

Amount: 184,500 Indian rupees (\$27,151. equivalent).

UR-A7-(20)-58

A study of the adsorption of selected ions to wool, as a basis for elucidating structure and providing new directions for improvements in modification, processing, and utilization.

Ahmedabad Textile Industry's Research Association, Ahmedabad.

Grant FG-In-248 executed March 16, 1965. Duration: Four years.

Amount: 165,836 Indian rupees (\$25,352. equivalent).

UR-A7-(20)-59

An investigation of moisture sorption and desorption by crosslinked cotton celluloses over the entire humidity range, in relation to the state of swelling under which the cellulose is crosslinked and to other properties of the crosslinked celluloses, to obtain information of value in increasing the textile uses of cotton.

Shri Ram Institute for Industrial Research, Delhi.

Grant FG-In-237 executed December 10, 1964. Duration: Five years.

Amount: 421,004 Indian rupees (\$66,699. equivalent).

UR-A7-(30)-60

Studies of the leucoanthocyanins in deciduous fruits to determine their role in the development of the natural pigments of fruit and the darkening of fruits during processing and storage of the processed products, with particular emphasis on fruits that are dried commercially.

Department of Chemistry, University of Delhi, Delhi.

Grant FG-In-177 executed July 24, 1963. Duration: Five years.

Amount: 497,545 Indian rupees (\$88,694. equivalent).

UR-A7-(30)-64

Investigations of the chemical structure of tannins and other polyphenolic polymers in fruits, as a contribution to the development of processing methods to control the adverse effects of these substances in fruit products.

Central Leather Research Institute, Madras.

Grant FG-In-284 executed February 4, 1966. Duration: Four years.

Amount: 275,464 Indian rupees (\$40,297. equivalent).

INDIAUtilization Research (continued)

UR-A7-(40)-69(k)

Preparation of polymerizable monomers from castor oil hydroxy-unsaturated fatty acids, to increase the utilization of castor seed oil.

Regional Research Laboratory (Council of Scientific and Industrial Research), Hyderabad.

Grant FG-In-202 executed September 7, 1964 (eff. 2/15/65). Duration: Five years.

Amount: 188,436 Indian rupees (\$30,620. equivalent).

UR-A7-(60)-72

Preparation and properties of long chain sulfated monoglycerides, particularly in relation to use with soap in soap-detergent systems, in the form of liquid detergents, solid granular detergents, or bar detergents, in the interests of developing expanded industrial uses for surplus animal fats.

Department of Chemical Technology, University of Bombay, Bombay.

Grant FG-In-187 executed April 16, 1964. Duration: Five years.

Amount: 180,900 Indian rupees (\$29,894. equivalent).

UR-A7-(10)-75

Investigation of the distribution of aerobic actinomycetes in India, with particular emphasis on their isolation, characterization, antibiotic production, and preservation, for placement in the Culture Collection of the Agricultural Research Service as potential agents for the conversion of farm-produced raw materials to products useful to industry and the consuming public.

Central Drug Research Institute, Chattr Manzil Palace, Lucknow, U.P.

Grant FG-In-254 executed April 21, 1965. Duration: Five years.

Amount: 313,290 Indian rupees (\$48,117. equivalent).

UR-A7-(60)-80

A radioactive tracer study of mineral tannage operations with special reference to the kinetics, stability, and uptake of the mineral tanning complexes, as a basis for improving mineral tanning processes for leather.

Central Leather Research Institute, Madras.

Grant FG-In-239 executed March 23, 1965. Duration: Five years.

Amount: 257,889 Indian rupees (\$38,664. equivalent).

UR-A7-(60)-81

Development of test procedures for quantitatively evaluating the comfort properties of shoe leathers, to improve the competitive position of leather with respect to substitutes and to increase the utilization of hides and skins.

Central Leather Research Institute, Madras.

Grant FG-In-209 executed August 20, 1964. Duration: Five years.

Amount: 151,416 Indian rupees (\$23,020. equivalent).

INDIAUtilization Research (continued)

UR-A7-(20)-84

Investigation of heat and mass transfer rates and other basic engineering concepts as related to the drying and curing of resin-treated cotton textiles by countercurrent solid-gas contact systems, to obtain fundamental information necessary to devise more efficient textile processing techniques, thereby increasing the utilization of cotton in textile applications.

Shri Ram Institute for Industrial Research, Delhi.

Grant FG-In-238 executed December 15, 1964. Duration: Five years.

Amount: 563,811 Indian rupees (\$84,674. equivalent).

UR-A7-(20)-85

Determination of the factors that affect the drafting capacity, optimum conditions, spinning efficiency, and yarn quality of the direct sliver spinning system, to provide information needed to improve cotton processing and increase the utilization of cotton products.

Ahmedabad Textile Industry's Research Association, Ahmedabad.

Grant FG-In-243 executed January 12, 1965 (eff. 3/11/65). Duration: Five years.

Amount: 118,950 Indian rupees (\$17,875. equivalent).

UR-A7-(20)-87

Investigations of the correlation between several important physical properties of woven cotton apparel fabrics and their performance in actual service tests, to obtain information needed for the improvement of cotton textiles.

Shri Ram Institute for Industrial Research, Delhi.

Grant FG-In-260 executed September 1, 1965. Duration: Five years.

Amount: 529,666 Indian rupees (\$79,821. equivalent).

UR-A7-(60)-92

A fundamental study of chemical and physical changes taking place in the rapid tannage of heavy leathers, to obtain information pertinent to the development of new rapid tanning processes.

Central Leather Research Institute, Madras.

Grant FG-In-247 executed February 26, 1965. Duration: Five years.

Amount: 297,400 Indian rupees (\$43,129. equivalent).

UR-A7-(40)-95

Laboratory studies of the fermentative production of microbial lipases that are useful in converting vegetable oils to products of higher value, as basis for increasing the utilization of soybean and linseed oils.

Department of Biochemistry, M. S. University of Baroda, Baroda.

Grant FG-In-240 executed March 25, 1965. Duration: Five years.

Amount: 236,850 Indian rupees (\$36,779. equivalent).

INDIAUtilization Research (continued)

UR-A7-(10)-97

Studies on the toxicities of metabolites of fungi other than Aspergillus flavus, to obtain basic information needed to protect existing markets for wheat and rice.

Alagappa Chettiar College of Technology, University of Madras, Madras.

Grant FG-In-285 executed April 4, 1966. Duration: Five years.

Amount: 240,700 Indian rupees (\$50,759. equivalent).

UR-A7-(10)-98

Investigation of methods for the chemical preparation and characterization of hydroxyethyl ethers of cereal starches prepared by partial replacement of specific hydroxyl groups, to obtain new starch products with improved properties.

Ahmedabad Textile Industry's Research Association, Ahmedabad.

Grant FG-In-244 executed January 11, 1965. (eff. 6/1/65). Duration: Five years.

Amount: 269,000 Indian rupees (\$40,948. equivalent).

UR-A7-(60)-105

Investigations of the role of starter bacteria and some genetic variants in the development of flavor during the manufacture of cheese and cultured milk, to obtain information applicable to the preparation of improved cultured milk products.

Division of Microbiology, National Dairy Research Institute, Karnal.

Grant FG-In-279 executed January 27, 1966. Duration: Five years.

Amount: 365,220 Indian rupees (\$54,906. equivalent).

UR-A7-(40)-107(k)

Conversion of monoglycerides obtainable from castor oil to compounds of potential industrial value by acylation of the hydroxyl groups, thus providing a basis for increased industrial utilization of castor oil.

Shri Ram Institute for Industrial Research, Delhi.

Grant FG-In-280 executed January 1, 1966. Duration: Three years.

Amount: 343,174 Indian rupees (\$57,729. equivalent).

UR-A7-(10)-111

Studies on the isolation from natural plant gums of aldobi- and aldotriuronic acids, to provide reference compounds for structural investigations on microbial polysaccharides of potential industrial significance that are produced from cereal grains.

Department of Sugar Chemistry, National Sugar Institute, Kanpur.

Grant FG-In-262 executed June 25, 1965. Duration: Three years.

Amount: 169,049 Indian rupees (\$26,027. equivalent).

INDIAUtilization Research (continued)

UR-A7-(20)-120

A study of factors affecting curling and bursting of preponderantly warp- and filling-faced cotton fabric structure during processing, to obtain information needed for improving the processing of cotton into end-use products.

The Bombay Textile Research Association, Bombay.

Grant FG-In-293 executed April 28, 1966. Duration: Five years.

Amount: 279,510 Indian rupees (\$37,268. equivalent).

UR-A7-(40)-124

A study of the synthesis and properties of pure saturated diacid and triacid triglycerides, for use as model compounds in obtaining basic information needed to improve the utilization of cottonseed oil.

Department of Chemical Technology, University of Bombay, Bombay.

Grant FG-In-294 executed May 25, 1966. Duration: Five years.

Amount: 257,198 Indian rupees (\$34,293. equivalent).

ISRAELEconomic Research

A10-ERS-10(k)

Comprehensive programming of regional economic development.

Department of Agricultural Economics, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-225 executed November 1, 1965. Duration: Three years.

Amount: 130,750 Israeli pounds (\$45,583. equivalent).

Farm Research

A10-AE-3

Soil structure - tillage interactions.

Volcani Institute of Agricultural Research, National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-204 executed May 21, 1965. Duration: Three years.

Amount: 269,700 Israeli pounds (\$89,900. equivalent).

A10-AE-4

Effect of knife angle and velocity on cutting of roots and rhizomes in the soil.

Farm Machinery Department, The Volcani Institute of Agricultural Research, Beit Dagan.

Grant FG-Is-198 executed June 30, 1965. Duration: Three years.

Amount: 77,400 Israeli pounds (\$25,800. equivalent).

A10-AE-5

Application of air jets with a vortex to improve penetration of airborne insecticide sprays into dense foliage of citrus trees.

Volcani Institute of Agricultural Research, National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-184 executed August 20, 1964. Duration: Three years.

Amount: 132,300 Israeli pounds (\$44,100. equivalent).

ISRAELFarm Research (continued)

A10-ADP-5

Investigations on the pathogenesis of lesions produced by the local leech, Limnatus nilotica.

Hebrew University of Jerusalem, Hadassah Medical School, Jerusalem.

Grant FG-Is-132 executed March 11, 1962. Duration: Five years.

Amount: 236,430 Israeli pounds (\$78,810. equivalent).

A10-ADP-6

The immunizing effect of Brucella cell wall.

Department of Bacteriology, Hadassah Medical School, Hebrew University, Jerusalem.

Grant FG-Is-130 executed March 1, 1962. Duration: Five years.

Amount: 180,010 Israeli pounds (\$60,003. equivalent).

A10-ADP-7

Studies of lipid metabolism of Trypanosoma congolense and Trypanosoma vivax (animal disease parasites).

The Hebrew University, Hadassah Medical School, Jerusalem.

Grant FG-Is-176 executed September 1, 1964. Duration: Three years.

Amount: 178,740 Israeli pounds (\$59,580. equivalent).

A10-ADP-8

The effects of prolonged feeding of terephthalic acid (TPA) to rats.

The Hebrew University, The Hadassah Medical School, Jerusalem.

Grant FG-Is-175 executed January 1, 1965. Duration: Four years.

Amount: 178,570 Israeli pounds (\$59,523. equivalent).

A10-ADP-9

The structure, chemical composition, immunochemistry and nutritional requirements of PPL0 (Mycoplasma) pathogenic to farm animals.

The Hadassah Medical School, Hebrew University, Jerusalem.

Grant FG-Is-174 executed September 1, 1965. Duration: Four years.

Amount: 230,340 Israeli pounds (\$76,780. equivalent).

A10-AH-2

Comparative studies of 'repeat breeders' and normal cows and heifers.

The Veterinary Institute, Beit Dagan.

Grant FG-Is-159 executed February 24, 1964. Duration: Five years.

Amount: 460,480 Israeli pounds (\$153,493. equivalent).

A10-AH-3

Investigation into the mechanism of lactation and its augmentation by hypothalamic stimulation.

Hebrew University of Jerusalem, Hadassah School of Medicine, Jerusalem.

Grant FG-Is-147 executed August 22, 1962. Duration: Four years.

Amount: 295,630 Israeli pounds (\$98,543. equivalent).

ISRAELFarm Research (continued)

A10-AH-7

Utilization and function of vitamin A in the nutrition of poultry.

The Hebrew University of Jerusalem, Faculty of Agriculture, Rehovoth.

Grant FG-Is-135 executed March 24, 1962. Duration: Five years.

Amount: 204,120 Israeli pounds (\$68,040. equivalent).

A10-AH-8

Utilization of different kinds of protein feeds (sunflower, safflower, cottonseed oil cakes, dried grasses, and legumes) by ruminants.

Faculty of Agriculture, The Hebrew University of Jerusalem, Rehovoth.

Grant FG-Is-205 executed January 1, 1965. Duration: Four years.

Amount: 269,780 Israeli pounds (\$89,927. equivalent).

A10-AH-9

The effect of X-rays on viability genes with special reference to their action in heterozygotes and to the mechanism of heterosis.

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-167 executed November 18, 1963. Duration: Four years.

Amount: 103,950 Israeli pounds (\$34,650. equivalent).

A10-AH-10

Liberal feeding of concentrates to dairy cattle as a means for higher production.

Department of Animal Husbandry, The Volcani Institute of Agricultural Research, Beit Dagan.

Grant FG-Is-218 executed November 11, 1965. Duration: Five years.

Amount: 331,220 Israeli pounds (\$110,407. equivalent).

A10-AH-12

The separation of young and old spermatozoa.

Agricultural Research Station, National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-152 executed May 19, 1963. Duration: Five years.

Amount: 237,310 Israeli pounds (\$79,103. equivalent).

A10-AH-13

Factors acting in long-term storage of sperm in vivo.

The National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-153 executed March 8, 1963. Duration: Five years.

Amount: 250,420 Israeli pounds (\$83,473. equivalent).

A10-AH-14

Bacteriological problems in artificial insemination of hens.

The Hebrew University, Faculty of Agriculture, Rehovoth.

Grant FG-Is-196 executed February 1, 1965. Duration: Four years.

Amount: 206,478 Israeli pounds (\$68,826. equivalent).

ISRAELFarm Research (continued)

A10-AH-16

Some aspects of the carbohydrate and fat economy of lactating sheep with particular reference to ketosis.

The Hebrew University, Hadassah Medical School, Jerusalem.

Grant FG-Is-211 executed February 14, 1965. Duration: Three years.

Amount: 173,880 Israeli pounds (\$57,960. equivalent).

A10-AH-17

Water transport through animal membranes: Influence of the pH and the ionic composition of the bathing fluids on the effect of vasopressin.

The Hebrew University, Hadassah Medical School, Jerusalem.

Grant FG-Is-194 executed December 1, 1964. Duration: Three years.

Amount: 149,300 Israeli pounds (\$49,767. equivalent).

A10-AH-18

The effectiveness of selection and various artificial insemination techniques in increasing the fertility of chickens inseminated with turkey semen.

The Volcani Institute of Agricultural Research, Rehovoth.

Grant FG-Is-230 executed December 24, 1965. Duration: Two years.

Amount: 47,240 Israeli pounds (\$15,747. equivalent).

A10-AH-20

Studies on calcium and phosphorus metabolism in the chicken: investigation of the factors influencing egg shell quality.

National and University Institute of Agriculture, Volcani Institute of Agricultural Research, Rehovoth.

Grant FG-Is-200 executed November 10, 1964. Duration: Five years.

Amount: 284,800 Israeli pounds (\$94,933. equivalent).

A10-AH-24

Studies on avian leukosis (avian lymphomatosis).

Department of Biophysics, Israel Institute for Biological Research, Ness-Ziona.

Grant FG-Is-229 executed April 1, 1966. Duration: Four years.

Amount: 450,460 Israeli pounds (\$150,153. equivalent).

A10-CR-9

Compounds related to gibberellic acid.

Technion - Israel Institute of Technology, Haifa.

Grant FG-Is-197 executed November 2, 1964. Duration: Two years.

Amount: 102,855 Israeli pounds (\$34,285. equivalent).

A10-CR-11

Critical taxonomic revision of native grasses and legumes with special reference to economically important varieties.

The Hebrew University of Jerusalem, Jerusalem

Grant FG-Is-134 executed March 11, 1962. Duration: Five years.

Amount: 324,850 Israeli pounds (\$108,283. equivalent).

ISRAELFarm Research (continued)

A10-CR-13

Studies on the origin of the Old World cultivated cereals: wheat, barley and rye, with particular emphasis on natural hybridization.

Department of Botany, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-129 executed March 5, 1962. Duration: Five years.

Amount: 224,820 Israeli pounds (\$74,940. equivalent).

A10-CR-14

Development of carotene bodies in the carrot root.

The Hebrew University of Jerusalem, Department of Botany, Jerusalem.

Grant FG-Is-183 executed December 1, 1964. Duration: Three years.

Amount: 135,120 Israeli pounds (\$45,040. equivalent).

A10-CR-16

Determining the influence of environment on genetic shifts in forage crop varieties.

The Hebrew University, Faculty of Agriculture, Rehovoth.

Grant FG-Is-133 executed March 5, 1962 (eff. 8/1/62). Duration: Five years.

Amount: 203,090 Israeli pounds (\$67,697. equivalent).

A10-CR-18

Divergence and evolution of the safflower genus Carthamus L.

Faculty of Agriculture, The Hebrew University, Rehovoth.

Grant FG-Is-234 executed March 1, 1966. Duration: Three years.

Amount: 159,720 Israeli pounds (\$53,240. equivalent).

A10-CR-20

The screening of collections of wild oats for resistance and tolerance to oat crown rust and stem rust fungi.

Hebrew University of Jerusalem, Faculty of Agriculture, Rehovoth.

Grant FG-Is-138 executed July 24, 1962. Duration: Five years.

Amount: 467,170 Israeli pounds (\$155,723. equivalent).

A10-CR-22

The occurrence of natural growth promoters and inhibitors in citrus tree organs, as influenced by season, age, nutritional disorders and other factors.

The Hebrew University, Faculty of Agriculture, Rehovoth.

Grant FG-Is-136 executed May 4, 1962. Duration: Five years.

Amount: 260,970 Israeli pounds (\$86,990. equivalent).

A10-CR-27

Developmental physiology of perennial pasture grasses.

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-124 executed December 15, 1961 (eff. 1/1/62). Duration: Five years.

Amount: 211,540 Israeli pounds (\$70,513. equivalent).

ISRAELFarm Research (continued)

A10-CR-28

Mitochondrial structures in seeds.

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-180 executed September 1, 1964. Duration: Three years.

Amount: 174,580 Israeli pounds (\$58,193. equivalent).

A10-CR-30

The action of growth-regulating substances on the nitrogen metabolism and respiration of plant cells.

Botany Department, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-224 executed February 20, 1966. Duration: Three years.

Amount: 118,870 Israeli pounds (\$39,623. equivalent).

A10-CR-34

The nature and induction of cytoplasmic male sterility in plants.

The National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-171 executed December 11, 1963. Duration: Five years.

Amount: 209,180 Israeli pounds (\$69,727. equivalent).

A10-CR-36

Investigations into new methods for assessing nutrient status (deficiencies and excesses) in citrus trees and other plants (biochemical approach).

The National and University Institute of Agriculture, Agricultural Research Station, Beit-Dagan.

Grant FG-Is-154 executed March 8, 1963. Duration: Five years.

Amount: 206,700 Israeli pounds (\$68,900. equivalent).

A10-CR-37

The mineral nutritional balance and its application to fruit growing.

The National and University Institute of Agriculture, Beit Dagan.

Grant FG-Is-165 executed November 10, 1963. Duration: Five years.

Amount: 223,500 Israeli pounds (\$74,500. equivalent).

A10-CR-39

Influence of virus diseases on host plant physiology, initiation of infection and induced immunity in the plant.

The Volcani Institute of Agricultural Research, Beit Dagan.

Grant FG-Is-187 executed October 1, 1964. Duration: Five years.

Amount: 315,165 Israeli pounds (\$105,055. equivalent).

A10-CR-40

Biology and control of troublesome perennial weeds, especially Bermudagrass, nutsedge, and Johnsongrass.

The Volcani Institute of Agricultural Research, National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-233 executed December 22, 1965. Duration: Five years.

Amount: 291,400 Israeli pounds (\$97,133. equivalent).

ISRAELFarm Research (continued)

A10-CR-42

The physiological basis of the tolerance of horticultural crops to cold, drought and water stresses.

The Volcani Institute of Agricultural Research, The National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-182 executed August 6, 1964. Duration: Five years.

Amount: 369,400 Israeli pounds (\$123,133. equivalent).

A10-CR-45

Establishment and maintenance of seeded dryland range under semi-arid conditions.

The National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-149 executed February 18, 1963. Duration: Four years.

Amount: 303,480 Israeli pounds (\$101,160. equivalent).

A10-CR-46(a)

Biology of the fungus Aspergillus flavus Link and its infectivity to plants and animals.

Department of Botany, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-161 executed September 30, 1963. Duration: Five years.

Amount: 387,750 Israeli pounds (\$129,250. equivalent).

A10-CR-47

The biological control of soil-borne plant pathogenic fungi.

Faculty of Agriculture, Hebrew University, Rehovoth.

Grant FG-Is-160 executed July 16, 1963. Duration: Five years.

Amount: 329,330 Israeli pounds (\$109,777. equivalent).

A10-CR-49

Studies on the experimental morphogenesis of sex organs in plants (Cucumis sativus and C. Melo) with the intention of controlling sex expression and by this to enable the development of methods for hybrid seed production in economic plant species.

Weizmann Institute of Science, Rehovoth.

Grant FG-Is-172 executed December 18, 1963. Duration: Four years.

Amount: 195,555 Israeli pounds (\$65,185. equivalent).

A10-CR-56

Population studies and selection in berseem clover (Trifolium alexandrinum L.) and the closely related taxa.

Forage and Pasture Crops, The Volcani Institute of Agricultural Research, Beit Dagan.

Grant FG-Is-222 executed November 9, 1965. Duration: Five years.

Amount: 225,320 Israeli pounds (\$75,107. equivalent).

ISRAELFarm Research (continued)

A10-CR-60

Physiologic specialization of Cercospora beticola Sacc. in Israel, and sources of resistance to the sugarbeet leaf spot disease caused by that fungus.

Volcani Institute for Agricultural Research, National and University
Institute of Agriculture, Rehovoth and Beit-Dagan.

Grant FG-Is-199 executed November 10, 1964. Duration: Five years.

Amount: 242,720 Israeli pounds (\$80,907. equivalent).

A10-CR-61

Development of a method for quick propagation of new and superior date varieties.

Department of Subtropical Horticulture, Volcani Institute of
Agricultural Research, Rehovoth.

Grant FG-Is-235 executed April 7, 1966. Duration: Five years.

Amount: 253,640 Israeli pounds (\$84,547. equivalent).

A10-CR-64

The effect of time and duration of soil moisture stress on flowering, boll shedding, seed and lint development, and lint quality of cotton.

Faculty of Agriculture, The Hebrew University of Jerusalem, Rehovoth.

Grant FG-Is-216 executed April 1, 1965. Duration: Three years.

Amount: 181,030 Israeli pounds (\$60,343. equivalent).

A10-CR-66

Genetics of tetrapolar sexuality in higher fungi: the B-factor, common-B heterokaryosis and parasexuality (in order to better understand genetic characteristics of cultivated mushrooms).

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-228 executed November 15, 1965. Duration: Five years.

Amount: 242,850 Israeli pounds (\$80,950. equivalent).

A10-CR-69

Epidemiology and forecasting of downy mildews and allied fungi (affecting plants) in an arid climate with and without the aid of irrigation.

The Volcani Institute of Agricultural Research, Rehovoth.

Grant FG-Is-231 executed December 22, 1965. Duration: Five years.

Amount: 546,730 Israeli pounds (\$182,243. equivalent).

A10-CR-72

Nematodes as possible vectors of virus diseases of citrus and other fruit crops.

The Volcani Institute of Agricultural Research, Rehovoth.

Grant FG-Is-223 executed December 2, 1965. Duration: Five years.

Amount: 413,425 Israeli pounds (\$137,808. equivalent).

ISRAELFarm Research (continued)

A10-ENT-5

A study of the hostplant-vector and hostplant-virus relationships of the rough dwarf virus disease of corn, in order to develop efficient methods for the control of this disease.

Department of Entomology, The Hebrew University, Faculty of Agriculture, Rehovoth.

Grant FG-Is-127 executed February 20, 1962. Duration: Five years.
Amount: 240,180 Israeli pounds (\$80,060. equivalent).

A10-ENT-6

Acoustic responses of the desert locust (Schistocerca gregaria), Moroccan locust (Doclostaurus maroccanus) and Acrotylus insurbricus (Orthoptera; Acrididae).

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-185 executed October 1, 1964. Duration: Five years.
Amount: 255,195 Israeli pounds (\$85,065. equivalent).

A10-ENT-10

Biology of natural enemies of citrus scale insects, in order to develop methods of their mass production for biological control.

Department of Entomology, The Hebrew University, Faculty of Agriculture, Rehovoth.

Grant FG-Is-227 executed November 1, 1965. Duration: Four years.
Amount: 266,650 Israeli pounds (\$88,883. equivalent).

A10-ENT-12

Laboratory study of tick repellents and acaricides.

Ministry of Agriculture, The Veterinary Institute, Beit Dagan.

Grant FG-Is-202 executed December 25, 1964. Duration: Four years.
Amount: 139,840 Israeli pounds (\$46,613. equivalent).

A10-ENT-13

Factors influencing variations in insecticide resistance.

Israel Institute for Biological Research, Ness-Ziona.

Grant FG-Is-219 executed February 1, 1966. Duration: Five years.
Amount: 467,440 Israeli pounds (\$155,813. equivalent).

A10-ENT-15

A study of the ecology, biology and control of the citrus bud mite (Aceria sheldoni Eriophyidae).

The Volcani Institute of Agricultural Research, Rehovoth.

Grant FG-Is-220 executed November 9, 1965. Duration: Five years.
Amount: 273,850 Israeli pounds (\$91,283. equivalent).

A10-SWC-1

Agricultural utilization of soils affected by salinity.

The Hebrew University of Jerusalem, Faculty of Agriculture, Rehovoth.

Grant FG-Is-195 executed January 1, 1965. Duration: Four years.
Amount: 246,460 Israeli pounds (\$82,153. equivalent).

ISRAELFarm Research (continued)

A10-SWC-5

Performance and scientific design of sprinklers used for irrigation.

Technion, Israel Institute of Technology, Haifa.

Grant FG-Is-162 executed December 3, 1963. Duration: Three years.

Amount: 201,500 Israeli pounds (\$67,167. equivalent).

A10-SWC-7

The response of plants to changing salinity.

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-179 executed September 1, 1964. Duration: Five years.

Amount: 460,310 Israeli pounds (\$153,437. equivalent).

A10-SWC-8

The mode of occurrence of minor elements in sediments and soils; a fundamental study for the understanding of the behaviour and distribution of minor elements in soils.

Department of Geology, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-157 executed May 6, 1963. Duration: Five years.

Amount: 127,040 Israeli pounds (\$42,347. equivalent).

A10-SWC-11

Further studies on the Blaney and Criddle formula $U=KF$ to ascertain the consumptive use of water by plants by means of analysis of climatological data.

Faculty of Agriculture, The Hebrew University, Rehovoth.

Grant FG-Is-123 executed October 24, 1961 (eff. 11/1/61). Duration: Five years.

Amount: 166,680 Israeli pounds (\$55,560. equivalent).

A10-SWC-12

The determination of available microelements in calcareous soils.

Hebrew University of Jerusalem, Faculty of Agriculture, Rehovoth.

Grant FG-Is-137 executed June 1, 1962. Duration: Five years.

Amount: 247,880 Israeli pounds (\$82,627. equivalent).

A10-SWC-15

Micro-heterometric methods for the quick and precise determination of trace elements in agriculture.

Department of Inorganic and Analytical Chemistry, Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-158 executed May 31, 1963. Duration: Three years, four months.

Amount: 108,990 Israeli pounds (\$36,330. equivalent).

A10-SWC-19

The effects of considerable reduction in the intensity of sprinkling irrigation for increased yields, decrease in water duty and improved soil conditions.

Faculty of Agriculture, The Hebrew University, Rehovoth.

Grant FG-Is-164 executed November 8, 1963. Duration: Four years.

Amount: 177,199 Israeli pounds (\$59,963. equivalent).

ISRAELFarm Research (continued)

A10-SWC-20

Biology and consumptive water use of perennial range plants under desert conditions.

Department of Botany, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-221 executed November 1, 1965. Duration: Five years.

Amount: 271,370 Israeli pounds (\$90,457. equivalent).

A10-SWC-22

Basic and applied research into the efficiency of phosphate fertilization.

Technion - Israel Institute of Technology, Haifa.

Grant FG-Is-208 executed January 7, 1965. Duration: Five years.

Amount: 365,480 Israeli pounds (\$121,827. equivalent).

A10-SWC-24

Development of methods for measuring partial vapor pressure in soil water (measurement of soil water potential and its components from different points of view).

Technion - Israel Institute of Technology, Haifa.

Grant FG-Is-214 executed April 9, 1965. Duration: Two years.

Amount: 175,811 Israeli pounds (\$58,604. equivalent).

A10-SWC-25

Removal of suspended matter and turbidity from water by flocculation with polyelectrolyte coagulants and coagulation aids.

Technion Research and Development Foundation Ltd., Haifa.

Grant FG-Is-148 executed March 15, 1963. Duration: Four years.

Amount: 131,960 Israeli pounds (\$43,987. equivalent).

A10-SWC-27

The movement of ions and salts through non-ideal porous media (as applied to problems of salt leaching and fertilizer distribution in soil profiles).

Technion - Israel Institute of Technology, Haifa.

Grant FG-Is-226 executed April 1, 1966. Duration: Three years.

Amount: 184,280 Israeli pounds (\$61,427. equivalent).

A10-SWC-29

The effect of the moisture factor in the soil, plant and atmosphere on stomatal aperture and its influence on rates of transpiration and photosynthesis.

The Volcani Institute of Agricultural Research, The National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-201 executed November 17, 1964. Duration: Three years.

Amount: 282,010 Israeli pounds (\$94,003. equivalent).

ISRAELFarm Research (continued)

A10-SWC-30

Physiological adaptation of plants to moisture and osmotic stresses with respect to salt accumulation.

Department of Plant Physiology, The Negev Institute for Arid Zone Research, Beersheva.

Grant FG-Is-232 executed December 20, 1965. Duration: Three years.
Amount: 257,100 Israeli pounds (\$87,500. equivalent).

A10-SWC-31

Theoretical and experimental investigations of the mechanism of flow of water and solutes in plant roots.

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-181 executed November 1, 1964. Duration: Three years.
Amount: 168,650 Israeli pounds (\$56,217. equivalent).

A10-SWC-32

Soil water evaporation and means of minimizing it.

The National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-163 executed October 20, 1963. Duration: Five years.
Amount: 252,060 Israeli pounds (\$84,020. equivalent).

A10-SWC-36

Runoff inducement in arid lands.

Volcani Institute of Agricultural Research, National and University Institute of Agriculture, Rehovoth.

Grant FG-Is-178 executed August 12, 1964. Duration: Three years.
Amount: 374,100 Israeli pounds (\$124,700. equivalent).

A10-SWC-38

Fixation and availability of added phosphorus in soils as a function of bulk movement and diffusion; and the rate of formation of reaction products.

Technion - Israel Institute of Technology, Haifa.

Grant FG-Is-207 executed April 1, 1965. Duration: Five years.
Amount: 270,580 Israeli pounds (\$90,193. equivalent).

Forestry Research

A10-FS-5

Factors controlling the annual rhythm of wood production.

Hebrew University of Jerusalem, Botany Department, Jerusalem.

Grant FG-Is-144 executed August 5, 1962 (eff. 9/1/62). Duration:
Five years.

Amount: 295,880 Israeli pounds (\$98,627. equivalent).

A10-FS-7

Mechanisms of drought tolerance and drought avoidance in conifers of the Mediterranean zone and the arid west of the U. S. A.

The Hebrew University, Rehovoth.

Grant FG-Is-119 executed August 31, 1961 (eff. 10/1/61). Duration:
Five years.

Amount: 282,400 Israeli pounds (\$94,133. equivalent).

ISRAELForestry Research (continued)

A10-FS-8

The development of techniques for the vegetative propagation of pine trees by means of needle fascicles.

The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-118 executed August 31, 1961 (eff. 11/1/61). Duration: Five years.

Amount: 254,560 Israeli pounds (\$88,827. equivalent).

A10-FS-10

Effect of plant antitranspirants on certain physiological processes of forest seedlings and other plant material.

Hebrew University of Jerusalem, Botany Department, Jerusalem.

Grant FG-Is-145 executed August 5, 1962. Duration: Five years.

Amount: 382,340 Israeli pounds (\$127,447. equivalent).

A10-FS-13

Study of difference in effects of forest and other vegetative covers on water yield.

Soil Erosion Research Station, Ruppin Institute of Agriculture, Nathanya.

Grant FG-Is-215 executed March 5, 1965. Duration: Five years.

Amount: 341,820 Israeli pounds (\$113,940. equivalent).

A10-FS-15

Morphological and anatomical changes in pine trees related to resin stimulation.

Department of Botany, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-209 executed July 1, 1965. Duration: Five years.

Amount: 373,900 Israeli pounds (\$124,633. equivalent).

A10-FS-16

Investigation of the oxidation, combustion and pyrolysis of various cellulosic and other fuels in the presence of additives.

Department of Organic Chemistry, The Hebrew University, Jerusalem.

Grant FG-Is-210 executed January 1, 1965. Duration: Five years.

Amount: 434,740 Israeli pounds (\$144,913. equivalent).

Human Nutrition Research

A10-HN-2(k)

Nutritional studies of carbohydrate- and fat-induced hyperlipemias in man.

Hadassah Medical School of the Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-168 executed April 30, 1964. Duration: Three years.

Amount: 207,960 Israeli pounds (\$69,320. equivalent).

ISRAELHuman Nutrition Research (continued)

A10-HN-3(a)

Studies on ultrastructural changes in essential fatty acid deficiency.

The Hebrew University, The Hadassah Medical School, Jerusalem.

Grant FG-Is-203 executed January 1, 1965. Duration: Three years.

Amount: 121,755 Israeli pounds (\$40,585. equivalent).

A10-HN-4(a)

Comparative nutritional evaluation of protein mixtures from vegetable sources.

The Hebrew University, Hadassah Medical School, Jerusalem.

Grant FG-Is-186 executed December 1, 1964. Duration: Three years.

Amount: 149,250 Israeli pounds (\$49,750. equivalent).

Marketing Research

A10-AMS-4(a)

Effect of ethylene dibromide fumigated foods and feeds on animals.

Faculty of Agriculture, Hebrew University, Rehovoth; and Agricultural Research Station, Beit Dagan.

Grant FG-Is-117 executed August 7, 1961. Duration: Five years.

Amount: 414,490 Israeli pounds (\$138,163. equivalent).

A10-AMS-11(k)

Influence of environmental conditions on population dynamics of the Khapra beetle.

Department of Zoology, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-122 executed October 27, 1961. Duration: Five years.

Amount: 254,160 Israeli pounds (\$84,720. equivalent).

A10-MQ-1(a)

Isolation and structure of germination inhibitors in seeds.

The Weizmann Institute of Science, Rehovoth, and Hebrew University, Jerusalem.

Grant FG-Is-188 executed October 5, 1964. Duration: Three years.

Amount: 152,165 Israeli pounds (\$50,722. equivalent).

A10-MQ-2(k)

Investigations of maturation and ripening of avocado fruits.

The Volcani Institute of Agricultural Research, Rehovoth.

Grant FG-Is-206 executed January 15, 1965. Duration: Five years.

Amount: 250,970 Israeli pounds (\$83,657. equivalent).

A10-MQ-4(a)

Investigations on the use of antimetabolites for the control of certain stored-product insects.

Department of Organic Chemistry, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-213 executed August 1, 1965. Duration: Three years.

Amount: 196,372 Israeli pounds (\$65,457. equivalent).

ISRAELMarketing Research (continued)

A10-MQ-5(a)

Invisible marking of seeds (vegetable and cereal seeds).

Agricultural Research Station, Beit Dagan.

Grant FG-Is-212 executed February 15, 1965. Duration: Three years.

Amount: 136,920 Israeli pounds (\$45,640. equivalent).

Utilization Research

UR-A10-(20)-13

A fundamental investigation of crimp in wool fibers, with emphasis on stability and changes of crimp properties in relation to chemical modification and conventional processing, to provide a basis for increased utilization of wool.

Institute for Fibers and Forest Products, Ministry of Commerce and Industry of the State of Israel, Jerusalem.

Grant FG-Is-217 executed December 17, 1965. Duration: Five years.

Amount: 338,200 Israeli pounds (\$112,733. equivalent).

UR-A10-(40)-17

Fundamental investigations of complexes formed by soybean proteins with other meal constituents to provide information for applied studies on expanded utilization of soybean oil meal.

Weizmann Institute of Science, Rehovoth.

Grant FG-Is-120 executed September 29, 1961 (eff. 10/1/61).

Duration: Five years.

Amount: 444,089 Israeli pounds (\$148,030. equivalent).

UR-A10-(40)-20

Laboratory investigations on production of miso-type food products by fermentation of soybean meal products and cereal grains.

Bar-Ilan University, Biochemistry Laboratory, Ramat Gan.

Grant FG-Is-142 executed June 13, 1962 (eff. 7/1/62). Duration:

Five years.

Amount: 199,400 Israeli pounds (\$66,467. equivalent).

UR-A10-(10)-22

Correlation of technological measurements with rheological parameters of flour doughs prepared from wheat, to provide a basis for increased utilization of wheat.

Technion Research and Development Foundation, Ltd., Haifa.

Grant FG-Is-121 executed September 29, 1961 (eff. 10/1/61).

Duration: Five years.

Amount: 300,425 Israeli pounds (\$85,209. equivalent).

ISRAELUtilization Research (continued)

UR-A10-(10)-27

Studies on the preparation and properties of graft copolymers of starch and dextrin obtained by reaction with vinyl monomers and epoxides, to provide a basis for increased industrial utilization of cereal grains.

Department of Organic Chemistry, The Hebrew University of Jerusalem, Jerusalem.

Grant FG-Is-166 executed December 1, 1963. Duration: Four years.

Amount: 251,870 Israeli pounds (\$83,957. equivalent).

UR-A10-(40)-30

Investigations of the effect of processing conditions on the yield and quality of isolated soybean protein for use in Israeli-type foods, as a contribution to expanded utilization of soybeans.

Israel Institute of Technology, (Technion), Haifa.

Grant FG-Is-143 executed June 21, 1962 (eff. 7/1/62).

Duration: Five years.

Amount: 268,738 Israeli pounds (\$89,579. equivalent).

UR-A10-(30)-32

Investigation of enzymatic browning in deciduous fruits to provide a basis for its prevention during processing, thereby to increase the utilization of processed fruit products.

Hebrew University of Jerusalem, Department of Botany, Jerusalem.

Grant FG-Is-140 executed June 19, 1962 (eff. 7/1/62). Duration:

Five years.

Amount: 198,540 Israeli pounds (\$66,180. equivalent).

UR-A10-(40)-34

Investigation of π -complexed organometallic compounds derived from polyunsaturated fatty acids, to obtain fundamental information needed in expanding the utilization of cottonseed oil.

Technion Research and Development Foundation, Ltd., Haifa.

Grant FG-Is-156 executed May 7, 1963. Duration: Five years.

Amount: 343,204 Israeli pounds (\$114,401. equivalent).

UR-A10-(60)-37

A study of the formation of unnatural nucleic acids by use of purine and pyrimidine analogues and their effect on protein synthesis and irradiation sensitivity, to obtain basic information that could lead to a better understanding of the factors contributing to the composition and behavior of milk and other natural products.

Biochemistry Laboratory, Technion - Israel Institute of Technology, Haifa.

Grant FG-Is-189 executed September 1, 1965. Duration: Three years.

Amount: 137,215 Israeli pounds (\$45,738. equivalent).

ISRAELUtilization Research (continued)

UR-A10-(20)-50

A fundamental study of the oxidation of cotton and crosslinked cotton by hypochlorite, hypobromite, and other oxidizing agents, to obtain information needed on the kinetics of the oxidation and the changes in physical and chemical properties, in order to improve the characteristics of cotton for various end uses.

Institute for Fibres and Forest Products Research, Jerusalem.

Grant FG-Is-169 executed November 14, 1963. Duration: Five years.

Amount: 365,500 Israeli pounds (\$121,933. equivalent).

UR-A10-(10)-51

Fundamental studies of the mild oxidation of cereal grain starches by selected oxidizing agents, for the determination of reaction mechanisms and the physical and chemical properties of modified starches of importance to their production and industrial use.

Institute for Fibres and Forest Products Research, Jerusalem.

Grant FG-Is-170 executed November 14, 1963. Duration: Five years.

Amount: 224,935 Israeli pounds (\$74,978. equivalent).

UR-A10-(40)-52

Development of methods for the improved preparation of protein hydrolysates for the determination of amino acids, to provide a more accurate means for assessment of protein quality and nutritive value of oilseed proteins, thus contributing to their increased utilization.

Department of Nutrition, Hadassah Medical School, The Hebrew University, Jerusalem.

Grant FG-Is-190 executed October 1, 1965. Duration: Three years.

Amount: 173,510 Israeli pounds (\$57,837. equivalent).

UR-A10-(40)-53

A study of the preparation of new chemical derivatives from acrylonitrile and fatty acids derived from the oils of cottonseed, tung, parsley seed, Limnanthes douglasii, Cuphea, and other oilseeds of the southern region of the United States, to obtain information leading to potential new uses for these oils.

The Hebrew University-Hadassah Medical School, Jerusalem.

Grant FG-Is-191 executed October 15, 1964. Duration: Four years.

Amount: 297,200 Israeli pounds (\$99,067. equivalent).

UR-A10-(40)-54

An investigation of metalation reactions employing alkali and alkaline earth metals and their derivatives for the modification of mono- and dienolic fatty acids to provide increased functionality, thereby leading to possible new uses for cottonseed, Limnanthes douglasii, and umbelliferous oils in industrial application.

The Hebrew University, Faculty of Science, Jerusalem.

Grant FG-Is-192 executed December 1, 1964. Duration: Five years.

Amount: 318,585 Israeli pounds (\$106,195. equivalent).

ISRAELUtilization Research (continued)

UR-A10-(20)-56

The synthesis and determination of the properties of new aziridinyl phosphorus compounds having potential for use in the treatment of cotton, to afford new products of increased utility.

The Hebrew University of Jerusalem, Organic Chemistry Department, Jerusalem.

Grant FG-Is-193 executed November 1, 1964. Duration: Three years.
Amount: 159,385 Israeli pounds (\$53,128. equivalent).

ITALYFarm Research

E15-AE-1

The development of methods and equipment for breaking up cohesive clay soils into small clod sizes up to deep depths.

Institute of Agricultural Engineering, University of Bologna, Bologna.

Grant FG-It-130 executed October 2, 1963. Duration: Three years.
Amount: 21,025,000 Italian lire (\$33,857. equivalent).

E15-CR-6

Screening of alfalfa lines for resistance to verticillium wilt.

Istituto di Allevamento Vegetale, University of Perugia, Perugia.

Grant FG-It-118 executed April 18, 1962. Duration: Five years.
Amount: 26,910,000 Italian lire (\$43,333. equivalent).

E15-CR-7

Research on pear Moria (pear decline disease).

Istituto de Patologia Vegetale dell Universita, Milan.

Grant FG-It-123 executed September 10, 1962. Duration: Five years.
Amount: 38,088,000 Italian lire (\$61,333. equivalent).

E15-ENT-1

A study of Acarine disease of honey bees.

Istituto Nazionale di Apicoltura, Bologna.

Grant FG-It-116 executed April 30, 1962. Duration: Five years.
Amount: 36,450,000 Italian lire (\$58,696. equivalent).

Forestry Research

E15-FS-3

Factors affecting the difficult rooting of cuttings in some poplars (i.e., P. deltoides v. angulata, P. alba, P. tremula) and their hybrids.

Ente Nazionale per la Cellulosa e per la Carta, Rome.

Grant FG-It-122 executed August 21, 1962 (eff. 9/1/62). Duration: Four years.

Amount: 29,000,000 Italian lire (\$46,699. equivalent).

ITALYForestry Research (continued)

E15-FS-5

Biology and epidemiology of Melampsora pinitorqua (Pine twist rust).

Istituto di Patologia Forestale, University of Florence, Florence.

Grant FG-It-119 executed June 1, 1962. Duration: Five years.

Amount: 28,625,000 Italian lire (\$46,095. equivalent).

E15-FS-6

The problem of incompatibility in the grafting of forest trees, especially pines.

Istituto di Botanico Agraria e Forestale, Florence.

Grant FG-It-128 executed June 5, 1963. Duration: Four years.

Amount: 26,544,000 Italian lire (\$42,744. equivalent).

E15-FS-8

Comparative studies of the photosynthetic efficiencies of poplar hybrids, with investigation of the limiting factors.

Istituto di Scienze Botaniche, Università di Milano, Milan.

Grant FG-It-129 executed July 11, 1963. Duration: Five years.

Amount: 42,080,000 Italian lire (\$67,762. equivalent).

Human Nutrition Research

E15-HN-2(a)

The effect of chronic administration of food additives with detergent properties on lipid metabolism and atherosclerosis.

Istituto di Recerche Farmacologiche "Mario Negri", Milan.

Grant FG-It-132 executed July 1, 1964. Duration: Three years.

Amount: 24,360,000 Italian lire (\$39,038. equivalent).

Marketing Research

E15-AMS-12(a)

The effect of long-term bulk storage upon quality of edible vegetable oils.

Istituto di Industria Agrarie, University of Florence, Florence.

Grant FG-It-121 executed October 23, 1962. Duration: Four years.

Amount: 16,360,000 Italian lire (\$26,345. equivalent).

Utilization Research

UR-E15-(10)-17

Separation, determination, and characterization of non-tocopherol reducing substances in alfalfa, to provide information of value for improving the stability, and thus the utilization of dehydrated alfalfa.

Stazione Sperimentale di Praticoltura, Lodi (Milano).

Grant FG-It-127 executed April 27, 1963. Duration: Five years.

Amount: 33,975,000 Italian lire (\$54,710. equivalent).

UR-E15-(50)-29

Preparation and characterization of dextran derivatives, and investigations of their interactions and binding, to provide basic information for increasing the utilization of sugar.

Institute of Biological Chemistry, University of Rome, Rome.

Grant FG-It-113 executed September 25, 1961. Duration: Five years.

Amount: 65,000,000 Italian lire (\$104,670. equivalent).

ITALYUtilization Research (continued)

UR-E15-(10)-31

Separation and characterization of the major protein and non-protein nitrogenous constituents of wheat germ to provide compositional information upon which to base development of protein-rich food products and feed supplements from wheat.

Istituto di Chimica Biologica della Universita di Bologna, Bologna.

Grant FG-It-117 executed May 29, 1962. Duration: Five years.

Amount: 38,650,000 Italian lire (\$62,238. equivalent).

UR-E15-(10)-32

Investigations on the conformation of glucopyranose rings in amylose corn starches and in linear and cyclic dextrans prepared from these starches, to provide basic information for the chemical modification of starch-derived products for the development of new uses.

Scientific Institute of Chemistry and Biochemistry "G. Ronzoni," Milan.

Grant FG-It-115 executed April 1, 1962. Duration: Five years.

Amount: 37,152,500 Italian lire (\$59,827. equivalent).

UR-E15-(40)-33

Investigations of the physical and physicochemical properties of cottonseed proteins, to obtain basic information needed for the increased utilization of cottonseed.

Istituto di Chimica Biologica, Universita di Roma, Rome.

Grant FG-It-125 executed February 18, 1963 (eff. 3/1/63). Duration: Five years.

Amount: 69,910,000 Italian lire (\$112,576. equivalent).

UR-E15-(40)-35

A study of the mechanism of gossypol toxicity counteraction by L-lysine, to gain information needed to permit the increased use of cottonseed products in animal feeds.

Istituto di Recerche Farmacologiche "Mario Negri," Milan.

Grant FG-It-131 executed April 24, 1964. Duration: Five years.

Amount: 53,380,000 Italian lire (\$85,958. equivalent).

UR-E15-(40)-44

Experimental studies to elucidate the role of cottonseed meal in the induction of hepatoma in rainbow trout, to obtain fundamental information concerning the suitability of cottonseed meal for use in rations for this species.

Consorzio Regionale per la Tutela, l'Incremento e l'Esercizio della Pesca - Valle d'Aosta, Aosta.

Grant FG-It-133 executed January 19, 1965. Duration: Three years.

Amount: 31,800,000 Italian lire (\$50,880. equivalent).

UR-E15-(40)-46

Studies of the effect of stereospecific polymerization catalysts on fatty esters from soybean and linseed oils, to provide a basis for increasing the industrial utilization of these vegetable oils.

Stazione Sperimentale per le Industrie degli Olii e dei Grassi (Experiment Station for the Fats and Oils Industry), Milan.

Grant FG-It-134 executed March 9, 1965. Duration: Two years.

Amount: 20,077,442 Italian lire (\$32,124. equivalent).

ITALYUtilization Research (continued)

UR-E15-(40)-48

Synthesis and use of lipid-soluble metal chelates of Schiff bases as catalysts for the selective hydrogenation of soybean oil, to provide a basis for improving its flavor stability for edible use.

Stazione Sperimentale per le Industrie degli Olii e dei Grassi
(Experiment Station for the Fats and Oils Industry), Milan.

Grant FG-It-135 executed March 9, 1965. Duration: Two years.

Amount: 19,908,575 Italian lire (\$31,854. equivalent).

JAPANHuman Nutrition Research

All-HN-1(a)

Nutritional value of tempeh (a fermented soybean product).

Food and Nutrition Laboratory, Osaka City University, Osaka.

Grant FG-Ja-110 executed October 14, 1964. Duration: Five years.

Amount: 7,057,195 Japanese yen (\$19,603. equivalent).

Marketing Research

All-MQ-2(a)

Toxic metabolites development in rice as a result of invasion and growth of species of Penicillium during post-harvest conditioning, handling, and storage.

National Institute of Hygienic Sciences, Tokyo.

Grant FG-Ja-121 executed September 17, 1965. Duration: Three years.

Amount: 11,939,000 Japanese yen (\$33,164. equivalent).

All-MQ-3(a)

Constituents of rice, wheat, and dairy products that attract insects.

Tokyo University of Agriculture, Setagaya, Tokyo.

Grant FG-Ja-120 executed August 30, 1965. Duration: Three years.

Amount: 13,904,000 Japanese yen (\$38,622. equivalent).

Utilization Research

UR-A11-(40)-2

Evaluation of dehulled soybean grits from United States varieties for making miso.

Central Miso Institute, Tokyo.

Grant FG-Ja-101 executed April 13, 1962. Duration: Five years.

Amount: 15,205,200 Japanese yen (\$42,237. equivalent).

UR-A11-(40)-5

Investigation of the partial hydrogenation of soybean oil, to produce a stable liquid oil with improved properties.

Toyo University, Kawagoe.

Grant FG-Ja-102 executed April 5, 1962. Duration: Five years.

Amount: 15,767,000 Japanese yen (\$43,797. equivalent).

JAPANUtilization Research (continued)

UR-A11-(40)-8

Isolation and determination of the flavor components of enzymatically or chemically modified soybean meal and proteins, and elucidation of their chemical and physical properties, to provide information basic to improving the flavor and thus increasing the utilization of soybeans.

Faculty of Agriculture, University of Tokyo, Tokyo.

Grant FG-Ja-111 executed October 26, 1964. Duration: Three years.

Amount: 13,812,384 Japanese yen (\$38,368. equivalent).

UR-A11-(10,40)-10

Investigation of crosses of Saccharomyces rouxii isolated from the soybean fermentations, shoyu and miso, and an evaluation of their fermentative abilities in these fermentation processes, as a basis for increasing the use of soybeans and wheat in fermented foods.

Noda Institute for Scientific Research, Noda-shi, Chiba-ken.

Grant FG-Ja-106 executed April 26, 1963. Duration: Five years.

Amount: 15,908,400 Japanese yen (\$44,190. equivalent).

UR-A11-(40)-11

Evaluation of United States soybean varieties as a material for producing fresh tofu.

Japan Tofu Association, Tokyo.

Grant FG-Ja-104 executed January 10, 1963. Duration: Five years.

Amount: 10,469,500 Japanese yen (\$29,082. equivalent).

UR-A11-(40)-13

Isolation, characterization, and quantitative determination of the sterols in soybeans, to provide basic information for the evaluation and improvement of soybean meal and soybean products as foods and feeds.

Department of Agricultural Chemistry, University of Tokyo, Tokyo.

Grant FG-Ja-107 executed April 11, 1963. Duration: Four years.

Amount: 13,434,000 Japanese yen (\$37,317. equivalent).

UR-A11-(40)-14

Fundamental studies on color reversion of edible soybean oil to obtain information on its cause and prevention, as a means of increasing the utilization of soybean oil for food purposes in Japan.

Sugiyama Chemical Research Institute, Tokyo.

Grant FG-Ja-112 executed December 1, 1964. Duration: Two years.

Amount: 6,838,864 Japanese yen (\$18,997. equivalent).

UR-A11-(10)-17

Investigations to discover microorganisms that produce useful quantities of D-tartaric acid, and to explore laboratory processes for its production by fermentation of cereal grain products, as a basis for increasing the utilization of such products.

University of Tokyo, Tokyo.

Grant FG-Ja-113 executed November 9, 1964. Duration: Five years.

Amount: 24,071,550 Japanese yen (\$66,865. equivalent).

JAPANUtilization Research (continued)

UR-All-(10)-19

Investigations on the development of a polarographic method for determining aldehyde and ketone carbonyl groups in products derived from cereal grain starches, to facilitate the characterization of such polysaccharides as a basis for increasing their utilization.

College of Agriculture, University of Osaka Prefecture, Osaka.

Grant FG-Ja-109 executed October 1, 1964. Duration: Four years.

Amount: 14,084,600 Japanese yen (\$39,124. equivalent).

UR-All-(10)-20

A study of the modification of physical properties of doughs and gluten by incorporation of small amounts of selected polymeric materials that are capable of combination or association with gluten proteins, to provide a basis for greater use of wheat gluten in food products.

Osaka Women's University, Osaka.

Grant FG-Ja-116 executed July 27, 1965. Duration: Three years.

Amount: 5,757,090 Japanese yen (\$15,992. equivalent).

UR-All-(40)-21

Investigations on comparative production of shoyu (soy sauce) from defatted soybean meals obtained from United States and Japanese soybeans and processed by United States and Japanese methods, to provide data for the increased use of United States beans.

Japan Shoyu Research Institute, Tokyo.

Grant FG-Ja-117 executed August 21, 1965. Duration: Three years.

Amount: 12,659,100 Japanese yen (\$35,164. equivalent).

UR-All-(10)-22

Investigations to discover microorganisms that produce useful quantities of mevalonic acid, and to develop an efficient process for the economic production of mevalonic acid by fermentation of cereal grain products, as a basis for increasing the utilization of such products.

Department of Agricultural Chemistry, The University of Tokyo,
Bunkyo-Ku, Tokyo.

Grant FG-Ja-114 executed February 17, 1965. Duration: Three years.

Amount: 12,490,000 Japanese yen (\$34,694. equivalent).

UR-All-(10)-23

A study of the distribution of the major proteins of rice within sub-cellular particles, and the distribution of these particles in the cellular structure of the rice kernel, to obtain basic information needed for developing new and improved rice products and methods for producing them.

Department of Agricultural Chemistry, Faculty of Agriculture, Kyoto
University, Kyoto.

Grant FG-Ja-115 executed September 1, 1965. Duration: Three years.

Amount: 7,985,270 Japanese yen (\$22,181. equivalent).

JAPANUtilization Research (continued)

UR-A11-(40)-24

Studies of the biochemical mode of action of aflatoxins and their biodegradation, to obtain basic information needed for control of these toxins in cottonseed, peanuts, and other agricultural commodities that may be exposed to contamination by Aspergillus flavus.

Faculty of Agriculture, Nagoya University, Nagoya.

Grant FG-Ja-118 executed April 1, 1966. Duration: Three years.

Amount: 11,400,000 Japanese yen (\$31,667. equivalent).

UR-A11-(40)-26

Basic investigations on the development of foods from enzymatically treated soybean protein concentrates, to increase the use of United States soybeans in Japan.

Faculty of Agriculture, Tokyo University of Education, Tokyo.

Grant FG-Ja-122 executed October 13, 1965. Duration: Three years.

Amount: 9,378,100 Japanese yen (\$26,050. equivalent).

UR-A11-(40)-29

An investigation of the chemical composition and reactivity of the nucleic acids of cottonseed, to obtain basic information needed for the increased utilization of this commodity.

Faculty of Agriculture, Kyoto University, Kyoto.

Grant FG-Ja-119 executed September 6, 1965. Duration: Three years.

Amount: 6,890,000 Japanese yen (\$19,139. equivalent).

UR-A11-(40)-31

Studies on enzymatic hydrolysis of soybean oligosaccharides, to provide information basic to increasing the utilization of soybean food and feed products.

Kagawa University, Takamatsu, Kagawa-ken.

Grant FG-Ja-123 executed June 11, 1966. Duration: Three years.

Amount: 9,708,500 Japanese yen (\$26,968. equivalent).

KOREAFarm Research

A13-CR-1

New crops screening of native plants of South Korea of potential use in the agriculture of the United States.

College of Agriculture, Seoul National University, Suwon.

Grant FG-Ko-100 executed January 21, 1963. Duration: Five years.

Amount: 7,262,930 Korean won (\$34,990. equivalent).

A13-ENT-3

Investigations on the biology of dung beetles in Korea and their role in the prevention of fly breeding in dung.

College of Agriculture, Seoul National University, Suwon.

Grant FG-Ko-102 executed September 3, 1963. Duration: Five years.

Amount: 3,762,600 Korean won (\$29,055. equivalent).

KOREA (continued)Forestry Research

A13-FS-1

The fundamental mechanism of root-primordia formation in the cuttings of forest trees.

College of Agriculture, Seoul National University, Suwon.

Grant FG-Ko-101 executed February 20, 1963. Duration: Five years.

Amount: 3,956,500 Korean won (\$28,540. equivalent).

Human Nutrition Research

A13-HN-1(k)

Studies of basal metabolism and energy expenditure of Koreans in daily life and work.

College of Medicine, Ewha Womans University, Seoul.

Grant FG-Ko-104 executed October 30, 1963. Duration: Five years.

Amount: 2,003,750 Korean won (\$15,473. equivalent).

NETHERLANDSMarketing Research

E19-AMS-11(a)

The health condition of seeds in commercial channels: Development of methods suitable for routine testing of seed for seedborne organisms.

Rijksproefstation voor Zaadcontrole, Wageningen.

Grant FG-Ne-102 executed May 6, 1963. Duration: Five years.

Amount: 200,800 Netherlands guilders (\$55,918. equivalent).

E19-MQ-1(a)

Kernel hardness and its relation to mechanical and technological properties of wheat and flour.

Instituut voor Graen, Meel en Brood, T.N.O. (Institute for Cereals, Flour, and Bread), Wageningen.

Grant FG-Ne-108 executed April 1, 1965. Duration: Four years.

Amount: 253,653 Netherlands guilders (\$70,670. equivalent).

Utilization Research

UR-E19-(20)-12

An investigation of the fundamental mechanisms and bonding forces that could be used to improve the tensile strength and other physical properties of cotton textiles, as a means of increasing the utilization of cotton.

Fiber Research Institute, T.N.O., Delft.

Grant FG-Ne-104 executed February 4, 1964. Duration: Five years.

Amount: 368,638 Netherlands guilders (\$102,108. equivalent).

UR-E19-(60)-13

A study of the kinetics of chrome tanning, with special reference to the changes that occur in the chromium complexes during chrome tannage.

Leather Research Institute, T.N.O., Waalwijk.

Grant FG-Ne-105 executed February 20, 1964. Duration: Four years.

Amount: 206,980 Netherlands guilders (\$57,542. equivalent).

NETHERLANDSUtilization Research (continued)

UR-E19-(60)-17

Studies of the use of protozoa and other microorganisms for the detection of harmful substances in meat and other foods, in the interests of expanded utilization of meat.

Central Institute for Nutrition and Food Research, T.N.O., Zeist.

Grant FG-Ne-107 executed February 11, 1965. Duration: Five years.

Amount: 297,770 Netherlands guilders (\$82,967. equivalent).

UR-E19-(10)-18

Studies of the preparation of metal alkoxides of starch derivatives, to provide a basis for increasing the industrial utilization of cereal starches.

Plastics Research Institute, T.N.O., Delft.

Grant FG-Ne-106 executed September 7, 1964. Duration: Five years.

Amount: 449,830 Netherlands guilders (\$124,676. equivalent).

PAKISTANFarm Research

A17-AE-1

Development of solar powered equipment for operating a small irrigation pump.

Atomic Energy Centre, Lahore, West Pakistan.

Grant FG-Pa-118 executed June 26, 1964 (eff. 8/1/64). Duration: Three years.

Amount: 96,922 Pakistani rupees (\$20,194. equivalent).

A17-CR-3

Fundamental studies on rusts and smuts of small grains in Pakistan.

Cereal Rusts Laboratory, Department of Plant Protection, Sunny Bank, Murree.

Grant FG-Pa-112 executed August 5, 1965. Duration: Five years.

Amount: 811,631 Pakistani rupees (\$168,808. equivalent).

A17-CR-5

New crops screening of native plants of Pakistan of potential use in the agriculture of the United States.

Gordon College, Rawalpindi.

Grant FG-Pa-111 executed January 12, 1962. Duration: Five years.

Amount: 285,320 Pakistani rupees (\$60,449. equivalent).

A17-CR-6

Collection and identification of fungi of West Pakistan.

Department of Botany, Government College, Lahore.

Grant FG-Pa-116 executed May 15, 1963. Duration: Five years.

Amount: 186,000 Pakistani rupees (\$39,257. equivalent).

A17-ENT-7

Investigations on the natural enemies of corn borers.

Commonwealth Institute of Biological Control, Rawalpindi.

Grant FG-Pa-108 executed December 8, 1961. Duration: Five years.

Amount: 295,695 Pakistani rupees (\$62,647. equivalent).

PAKISTANFarm Research (continued)

A17-ENT-8

Studies on the natural enemies of insect pests of rice.

Commonwealth Institute of Biological Control, Rawalpindi.

Grant FG-Pa-110 executed December 8, 1961. Duration: Five years.

Amount: 293,306 Pakistani rupees (\$62,141. equivalent).

A17-ENT-10

Studies of the oriental leafhoppers (Typhlocybinae).

University of Karachi, Karachi.

Grant FG-Pa-114 executed February 13, 1963. Duration: Five years.

Amount: 344,568 Pakistani rupees (\$71,929. equivalent).

A17-ENT-13

Insects, other plant-feeding organisms or plant diseases which attack Eurasian watermilfoil (Myriophyllum spicatum), an aquatic weed.

Commonwealth Institute of Biological Control, Pakistan Station, Rawalpindi.

Grant FG-Pa-117 executed June 1, 1965. Duration: Three years.

Amount: 349,021 Pakistani rupees (\$72,637. equivalent).

A17-ENT-14

Biologies and host-plant ranges of insects that attack noxious weeds common to Pakistan and the United States.

Commonwealth Institute of Biological Control, Pakistan Station, Rawalpindi.

Grant FG-Pa-120 executed September 16, 1965. Duration: Five years.

Amount: 523,000 Pakistani rupees (\$108,777. equivalent).

A17-ENT-15

Basic studies of parasites of the green peach aphid in northern West Pakistan.

Commonwealth Institute of Biological Control, Pakistan Station, Rawalpindi.

Grant FG-Pa-123 executed June 24, 1966. Duration: Three years.

Amount: 219,000 Pakistani rupees (\$45,673. equivalent).

A17-ENT-16

Relations between the parasite-predator complex and the host plants of scale insects in Pakistan.

Commonwealth Institute of Biological Control, Pakistan Station, Rawalpindi.

Grant FG-Pa-124 executed June 24, 1966. Duration: Three years.

Amount: 210,310 Pakistani rupees (\$43,860. equivalent).

PAKISTAN (continued)Forestry Research

A17-FS-2

Investigation and evaluation of factors influencing the absorption and penetration of preservatives in tropical timber.

Wood Preservation and Wood Chemistry Division, East Pakistan Forest Research Laboratory, Chittagong.

Grant FG-Pa-109 executed October 10, 1963. Duration: Five years.
Amount: 430,220 Pakistani rupees (\$89,629. equivalent).

A17-FS-7

The collection of authentic wood samples and herbarium materials of trees in East Pakistan.

Wood Anatomy Section, East Pakistan Forest Research Laboratory, Chittagong.

Grant FG-Pa-113 executed October 10, 1963. Duration: Five years.
Amount: 151,400 Pakistani rupees (\$31,542. equivalent).

A17-FS-9

Biology and ecology of important predators of spruce and fir aphids.
Commonwealth Institute of Biological Control, Pakistan Station, Rawalpindi.

Grant FG-Pa-119 executed March 17, 1965. Duration: Three years.
Amount: 324,735 Pakistani rupees (\$67,470. equivalent).

A17-FS-10

Ecology, biology and behavior of the principal natural enemies of major pests of important forest plants common to Pakistan and the United States.
Commonwealth Institute of Biological Control, Pakistan Station, Rawalpindi.

Grant FG-Pa-122 executed June 24, 1966. Duration: Five years.
Amount: 473,300 Pakistani rupees (\$98,707. equivalent).

PERUFarm Research

S8-ADP-1

Environmental factors influencing parasites and parasitic diseases of economical importance in ruminants (cattle, sheep, etc.).

School of Veterinary Medicine, University of San Marcos, Lima.

Grant FG-Pe-102 executed November 22, 1961. Duration: Five years.
Amount: 2,425,000 Peruvian soles (\$90,485. equivalent).

S8-CR-5

Investigations on the golden nematode, a potato pest.

Department of Entomology, Agricultural Experiment Station, Ministry of Agriculture, La Molina.

Grant FG-Pe-100 executed May 9, 1961 (eff. 9/1/61). Duration: Five yrs.
Amount: 2,028,400 Peruvian soles (\$75,686. equivalent).

PHILIPPINESFarm Research

A18-CR-2

Testing of fungicides for the control of downy mildew and screening of corn varieties, hybrids and inbred lines for downy mildew resistance.

Department of Plant Pathology, University of the Philippines, Laguna.

Grant FG-Ph-100 executed November 29, 1961 (eff. 4/1/62).

Duration: Four years and one half.

Amount: 59,679 Philippine pesos (\$17,544. equivalent).

A18-CR-4

Response of plants to various light durations.

University of the Philippines, College of Agriculture, Laguna.

Grant FG-Ph-101 executed July 3, 1962 (eff. 2/1/63). Duration:

Five years.

Amount: 81,024 Philippine pesos (\$20,802. equivalent).

A18-CR-5

Studies on the mechanical transmission and host range of cadang-cadang disease of coconut palm.

University of the Philippines, Laguna.

Grant FG-Ph-102 executed November 29, 1961 (eff. 2/1/62). Duration:

Five years.

Amount: 36,420 Philippine pesos (\$10,054. equivalent).

POLANDFarm Research

E21-ADP-6

The immunogenic properties, virulence and tropism of Newcastle Disease virus strains adapted to immune serum.

Virological Department, The Veterinary Research Institute, Pulawy.

Grant FG-Po-163 executed January 6, 1964. Duration: Three years.

Amount: 598,645 Polish zlotys (\$24,944. equivalent).

E21-ADP-7

Environmental stress as a contributory factor in animal diseases.

The Veterinary Research Institute of Pulawy, Pulawy.

Grant FG-Po-134 executed January 25, 1962. Duration: Five years.

Amount: 1,828,490 Polish zlotys (\$76,187. equivalent).

E21-ADP-9

Investigations on trichinellosis with special reference to epizootiology, immunology and pathogenesis.

Institute of Parasitology, Polish Academy of Sciences, Warsaw.

Grant FG-Po-148 executed August 16, 1962. Duration: Five years.

Amount: 2,864,225 Polish zlotys (\$119,343. equivalent).

POLANDFarm Research (continued)

E21-AH-4

Investigation on blood groups in a new racial group of the "Zlotnicka pig."

Agricultural College in Poznan, Chair of Animal Husbandry, Poznan.

Grant FG-Po-147 executed August, 1962 (eff. 11/1/62). Duration:

Five years.

Amount: 493,350 Polish zlotys (\$20,556. equivalent).

E21-AH-5

Protein compounds of vitamin B12 and its analogs.

Chair of Agricultural Technology, Agricultural Higher School, Poznan.

Grant FG-Po-137 executed March 30, 1962. Duration: Five years.

Amount: 1,036,670 Polish zlotys (\$43,195. equivalent).

E21-AH-6

Content of trace elements in forage crops in relation to the stage of development of the plants, the methods of gathering and storage.

College of Agriculture, Poznan.

Grant FG-Po-150 executed April 10, 1963. Duration: Five years.

Amount: 1,135,480 Polish zlotys (\$47,312. equivalent).

E21-AH-7

The reactions in the guinea pig liver microsomes during the protein biosynthesis in vitro.

The Institute of Biochemistry and Biophysics, Warsaw.

Grant FG-Po-154 executed September 1, 1963. Duration: Five years.

Amount: 1,449,875 Polish zlotys (\$60,411. equivalent).

E21-AH-8

The influence of somatotropin (STH-growth hormones) on fat metabolism in adult hens.

Warsaw Agricultural University, Chair of General Animal Breeding, Warsaw.

Grant FG-Po-171 executed September 1, 1964. Duration: Five years.

Amount: 1,252,450 Polish zlotys (\$52,185. equivalent).

E21-AH-11

Fundamental studies on the physiological factors controlling the occurrence of pale, soft and exudative meat in pigs.

Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Warsaw.

Grant FG-Po-182 executed January 8, 1966. Duration: Five years.

Amount: 3,339,985 Polish zlotys (\$139,166. equivalent).

POLANDFarm Research (continued)

E21-AH-13

The neural centers in the hypothalamus controlling the secretion and release of Follicle Developing Hormone and Luteotrophic Hormone in sheep and the mechanism of their action.

Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Jablonna.

Grant FG-Po-202 executed April 15, 1966. Duration: Four years.

Amount: 816,540 Polish zlotys (\$34,023. equivalent).

E21-CR-1

Metabolism of alkaloids in lupines and physiological role of these compounds.

Main College of Agriculture, Warsaw.

Grant FG-Po-130 executed June 16, 1961 (eff. 10/1/61). Duration: Five years.

Amount: 813,500 Polish zlotys (\$33,895. equivalent).

E21-CR-6

Evaluation of the East-European and Asiatic fruit species and varieties recently introduced to Poland.

Research Institute of Pomology, Skierniewice.

Grant FG-Po-127 executed September 1, 1961. Duration: Five years.

Amount: 1,358,000 Polish zlotys (\$56,583. equivalent).

E21-CR-12

Investigations on weed control in maize by herbicides and mechanical cultivation with special emphasis of their subsequent action in the rotation of crops.

Institute of Soil Sciences and Plant Cultivation, Wroclaw.

Grant FG-Po-140 executed April 15, 1962. Duration: Five years.

Amount: 1,277,300 Polish zlotys (\$53,221. equivalent).

E21-CR-17

Studies on the epidemiology of onion downy mildew, Peronospora destructor (Berk) Casp.

Department of Vegetable Crops of the Institute of Soil Science and Cultivation of Plants, Skierniewice.

Grant FG-Po-149 executed September 18, 1962. Duration: Five years.

Amount: 766,240 Polish zlotys (\$31,927. equivalent).

E21-CR-24

The influence of low and high temperature and different kind of soils on parent plants and on the development and yield of II and III generation of potatoes.

Polish Academy of Sciences, Department of Plant Physiology, Krakow.

Grant FG-Po-139 executed May 30, 1962. Duration: Five years.

Amount: 1,165,100 Polish zlotys (\$48,546. equivalent).

POLANDFarm Research (continued)

E21-CR-27

Studies of pome and stone fruit tree virus diseases in Poland with special emphasis on varieties recently introduced from Eastern countries.

Research Institute of Pomology, Skierniewice.

Grant FG-Po-162 executed December 31, 1963. Duration: Five years.

Amount: 1,186,505 Polish zlotys (\$49,438. equivalent).

E21-CR-30

The action of several herbicides on the complexes of microflora in maize crop rotation.

College of Agriculture, Wroclaw.

Grant FG-Po-172 executed October 2, 1964. Duration: Five years.

Amount: 1,744,060 Polish zlotys (\$72,669. equivalent).

E21-CR-31

Study of the cause of root greening in carrot.

Plant Breeding and Acclimatization Institute, Ministry of Agriculture, Krakow.

Grant FG-Po-158 executed December 17, 1963. Duration: Five years.

Amount: 1,200,495 Polish zlotys (\$50,021. equivalent).

E21-CR-34

The ornithine cycle in higher plants.

Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw.

Grant FG-Po-170 executed October 1, 1964. Duration: Five years.

Amount: 1,134,080 Polish zlotys (\$47,253. equivalent).

E21-CR-35

Studies on mineral elements and carbon content in young apple trees as influenced by their bearing age.

Research Institute of Pomology, Skierniewice.

Grant FG-Po-159 executed October 1, 1963. Duration: Five years.

Amount: 936,150 Polish zlotys (\$39,006. equivalent).

E21-CR-36

Finding sources of resistance to loose smut in native and foreign barley varieties and identifying genes for resistance by using trisomic lines of barley.

Cereals Department, Plant Breeding and Acclimatization Institute, Krakow.

Grant FG-Po-177 executed April 1, 1965. Duration: Five years.

Amount: 1,474,100 Polish zlotys (\$61,421. equivalent).

POLANDFarm Research (continued)

E21-CR-37

Studies on the physiology and biochemistry of fruiting with special consideration of the nature of the biochemical contact between fruit and the rest of the plant in strawberry.

Isotope Laboratory of Fruit Biochemistry, Research Institute of Pomology, Skierniewice.

Grant FG-Po-198 executed April 1, 1966. Duration: Five years.
Amount: 1,438,905 Polish zlotys (\$59,954. equivalent).

E21-CR-38

Variability and inheritance of amino acid contents in leguminous forage plants with particular stress on essential and non-protein amino acids.

Institute of Plant Genetics, Polish Academy of Sciences, Poznan.

Grant FG-Po-190 executed March 1, 1966. Duration: Five years.
Amount: 1,422,525 Polish zlotys (\$59,272. equivalent).

E21-CR-39

Mechanisms of the herbicide amitrole on microorganisms and higher plants such as barley and oats.

Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw.

Grant FG-Po-191 executed February 1, 1966. Duration: Five years.
Amount: 1,482,000 Polish zlotys (\$61,750. equivalent).

E21-CR-40

Searches for biochemical reasons of plant resistance to nematodes.

Nematological Laboratory, Institute of Plant Protection, Poznan.

Grant FG-Po-192 executed April 1, 1966. Duration: Five years.
Amount: 716,325 Polish zlotys (\$29,847. equivalent).

E21-CR-42

Breeding and cytological investigations of sugarbeet improvement through interspecific hybridizations.

Institute of Plant Breeding and Acclimatization, Bydgoszcz.

Grant FG-Po-187 executed February 1, 1966. Duration: Five years.
Amount: 2,176,625 Polish zlotys (\$90,693. equivalent).

E21-CR-44

Studies on the role of natural growth regulators in short growth, bud dormancy, and flower initiation of fruit trees (using apple and cherry trees).

Laboratory of Fruit Tree Physiology, Research Institute of Pomology, Skierniewice.

Grant FG-Po-199 executed April 1, 1966. Duration: Five years.
Amount: 1,592,887 Polish zlotys (\$66,370. equivalent).

E21-CR-45

Studies on the plant parasitic nematodes associated with strawberry plants.

Research Institute of Pomology, Skierniewice.

Grant FG-Po-193 executed February 10, 1966. Duration: Five years.
Amount: 1,276,035 Polish zlotys (\$53,168. equivalent).

POLANDFarm Research (continued)

E21-ENT-4

The causes and the role of diapause of insect pests.

Institute of Plant Protection, Poznan.

Grant FG-Po-142 executed May 29, 1962 (eff. 7/1/62). Duration:
Five years.

Amount: 533,570 Polish zlotys (\$22,232. equivalent).

E21-ENT-8

Mite fauna of orchards with special reference to the relation between
phytophagous and predaceous species.

Department of Applied Entomology, Central College of Agriculture,
Warsaw.

Grant FG-Po-155 executed March 1, 1964. Duration: Five years.

Amount: 804,780 Polish zlotys (\$33,532. equivalent).

E21-ENT-9

Insect vectors of virus diseases of various forage legumes.

Research Institute of Plant Protection, Poznan.

Grant FG-Po-135 executed March 5, 1962. Duration: Five years.

Amount: 936,640 Polish zlotys (\$39,027. equivalent).

E21-ENT-10

Studies on distance of mating flights of honey bee queens and drones,
and the necessary isolation of mating stations for preventing mismatings.

Bee Culture Department, Research Institute of Pomology, Skierniewice.

Grant FG-Po-178 executed April 16, 1965. Duration: Five years.

Amount: 1,028,040 Polish zlotys (\$42,835. equivalent).

E21-ENT-11

Role of parasitic Hymenoptera in reduction of population size of two
species of the genus Lygus.

Department of Applied Entomology, Institute of Ecology, Warsaw.

Grant FG-Po-188 executed March 1, 1966. Duration: Three years.

Amount: 281,315 Polish zlotys (\$11,721. equivalent).

E21-ENT-12

The role of nematodes as factor reducing populations of insect pests.

Institute of Ecology, Polish Academy of Sciences, Warsaw.

Grant FG-Po-180 executed May 1, 1965. Duration: Four years.

Amount: 571,752 Polish zlotys (\$23,823. equivalent).

E21-ENT-14

Studies regarding the bionomics, economic importance and natural control
factors affecting Oulema species (cereal leaf beetle) in Poland.

Department of Plant Protection, Agricultural University of Lublin,
Lublin.

Grant FG-Po-189 executed January 10, 1966. Duration: Five years.

Amount: 663,875 Polish zlotys (\$27,661. equivalent).

POLANDFarm Research (continued)

E21-ENT-15

Biology of reproduction as a basis for production of new varieties of honeybees.

Department of Pomology, Central Agricultural College, Warsaw.

Grant FG-Po-196 executed April 1, 1966. Duration: Five years.

Amount: 1,201,230 Polish zlotys (\$50,051. equivalent).

E21-ENT-16

The population trends in predaceous arthropods in apple orchards sprayed with different pesticides and the influence of these trends on the population density of phytophagous mites and some other pests.

Laboratory of Entomology, Research Institute of Pomology,
Skierniewice.

Grant FG-Po-197 executed April 1, 1966. Duration: Five years.

Amount: 1,340,910 Polish zlotys (\$55,871. equivalent).

E21-ENT-17

Studies on interactions of various pathogens in one insect host (cutworms).

Laboratory of Biological Control, Institute of Plant Protection, Poznan.

Grant FG-Po-194 executed May 1, 1966. Duration: Five years.

Amount: 1,325,050 Polish zlotys (\$55,210. equivalent).

E21-ENT-18

Study on the influence of essential fatty acids and alpha-tocopherol on the lipid metabolism and physiology of Colorado potato beetle, Leptinotarsa decemlineata (Say), and on the vitamin activity of alpha-tocopherol especially in coming generations.

Biochemical Laboratory, Institute of Plant Protection, Poznan.

Grant FG-Po-201 executed April 15, 1966. Duration: Five years.

Amount: 721,830 Polish zlotys (\$30,076. equivalent).

E21-ENT-19

Relationships in parallel development of insect host and parasite resistance to a common toxicant.

Institute of Ecology, Polish Academy of Sciences, Warsaw.

Grant FG-Po-203 executed May 1, 1966. Duration: Five years.

Amount: 835,643 Polish zlotys (\$34,818. equivalent).

E21-SWC-2

Fundamental studies of reactions between mineral and organic components in soil.

College of Agriculture, Department of General Soil and Plant
Cultivation, Wroclaw.

Grant FG-Po-146 executed June 1, 1962. Duration: Five years.

Amount: 963,810 Polish zlotys (\$40,159. equivalent).

POLAND (continued)Forestry Research

E21-FS-6

Investigations into the activity of the parasite Trichogramma embryo-phagum (Hart) introduced into the forest environment, with special attention towards its capacity of spreading.

College of Agriculture, Department of Forest Protection, Poznan.

Grant FG-Po-138 executed May 5, 1962 (eff. 1/1/63). Duration:

Four years.

Amount: 511,320 Polish zlotys (\$21,305. equivalent).

E21-FS-17

Investigations of pure cultures of mycorrhizal fungi of pine (Pinus silvestris L.).

Forest Research Institute, Warsaw.

Grant FG-Po-143 executed May 30, 1962. Duration: Five years.

Amount: 811,775 Polish zlotys (\$33,824. equivalent).

E21-FS-20

Population studies of Norway spruce in Poland.

Forestry Research Institute, Warsaw.

Grant FG-Po-160 executed October 15, 1963. Duration: Five years.

Amount: 902,850 Polish zlotys (\$37,619. equivalent).

E21-FS-21

Forest tree seed disease organisms.

Forest Research Institute, Warsaw.

Grant FG-Po-153 executed May 15, 1963. Duration: Five years.

Amount: 626,250 Polish zlotys (\$26,094. equivalent).

E21-FS-22

Influence of sowing of lupine on the growth of pine trees.

Forest Research Institute, Warsaw.

Grant FG-Po-106 executed March 27, 1963. Duration: Five years.

Amount: 564,980 Polish zlotys (\$23,541. equivalent).

E21-FS-23

Decomposition of forest litter and of thick moss layers in spruce and pine stands.

Forest Research Institute, Warsaw.

Grant FG-Po-133 executed March 27, 1963. Duration: Five years.

Amount: 1,114,650 Polish zlotys (\$46,444. equivalent).

E21-FS-24

Studies in wood formation with emphasis on seasonal changes.

Department of Forest Botany, Central College of Agriculture, Warsaw.

Grant FG-Po-166 executed September 1, 1964. Duration: Five years.

Amount: 1,131,319 Polish zlotys (\$47,138. equivalent).

POLANDForestry Research (continued)

E21-FS-26

A survey of endogenous growth substances in certain forest trees.

Nicolaus Copernicus University, Torun.

Grant FG-Po-161 executed November 15, 1963. Duration: Five years.

Amount: 1,302,800 Polish zlotys (\$54,283. equivalent).

E21-FS-30

The quantity, quality and seasonal variation of food resources available to red deer in various environmental conditions of forest management.

Forest Research Institute, Warsaw.

Grant FG-Po-169 executed August 1, 1964. Duration: Five years.

Amount: 3,161,800 Polish zlotys (\$131,742. equivalent).

E21-FS-31

A comparative study on the photosynthesis of various ecotypes of Scotch pine seedlings grown under different environmental conditions.

Warsaw Agricultural University, (SGGW), Warsaw.

Grant FG-Po-167 executed July 2, 1964. Duration: Five years.

Amount: 1,231,040 Polish zlotys (\$51,293. equivalent).

E21-FS-32

Effect of gibberellins on auxin metabolism and its relation to growth of Scots pine seedlings (Pinus silvestris).

Institute of Dendrology and Kornik Arboretum, Polish Academy of Sciences, Poznan.

Grant FG-Po-176 executed March 11, 1965. Duration: Five years.

Amount: 1,120,565 Polish zlotys (\$46,690. equivalent).

E21-FS-33

Variation between Picea abies provenances in their ability to utilize mineral nutrients available in limited quantities under competitive conditions.

Institute of Dendrology and Kornik Arboretum, Polish Academy of Sciences, Poznan.

Grant FG-Po-174 executed March 11, 1965. Duration: Five years.

Amount: 946,725 Polish zlotys (\$39,447. equivalent).

E21-FS-35

Saprophytic and semi-parasitic fungi as an environmental factor in the forest influencing the destructive activity of Armillaria mellea and Fomes annosus.

Microbiological Laboratory, College of Agriculture, Poznan.

Grant FG-Po-175 executed March 3, 1965. Duration: Four years.

Amount: 587,920 Polish zlotys (\$24,497. equivalent).

POLANDForestry Research (continued)

E21-FS-36

To determine seasonal variability of soil moisture and levels of groundwater table on lowland areas, as they affect water use, growth and development of pine stands.

Water Economy Department, Forest Research Institute, Warsaw.

Grant FG-Po-185 executed December 31, 1965. Duration: Five years.

Amount: 2,008,925 Polish zlotys (\$83,705. equivalent).

E21-FS-37

Occurrence and impact of diseases and insects of U. S. trees planted in certain climatic regions of Poland.

Silviculture Department, Forest Research Institute, Warsaw.

Grant FG-Po-184 executed December 31, 1965. Duration: Five years.

Amount: 699,930 Polish zlotys (\$29,164. equivalent).

E21-FS-38

Studies on the ecology and biology of the more important parasites of Rhyacionia buoliana Schiff. (European pine shoot moth) in Poland.

Forest Protection Department, Forest Research Institute, Warsaw.

Grant FG-Po-183 executed December 23, 1965. Duration: Five years.

Amount: 1,068,000 Polish zlotys (\$44,500. equivalent).

Human Nutrition Research

E21-HN-1(k)

Studies on availability and mechanism of carotene and vitamin A utilization from different dietary sources and under different experimental conditions.

Warsaw Agricultural University, (SGGW), Warsaw.

Grant FG-Po-168 executed July 1, 1964. Duration: Five years.

Amount: 1,188,905 Polish zlotys (\$49,538. equivalent).

E21-HN-2(k)

Goiterogenous substances in food and the possibility to eliminate their effect.

College of Agriculture, Olsztyn.

Grant FG-Po-181 executed August 11, 1965. Duration: Four years.

Amount: 1,015,356 Polish zlotys (\$42,307. equivalent).

Marketing Research

E21-AMS-4(a)

Studies on the possibility of using Bacillus thuringiensis for the control of the India-meal moth, Plodia interpunctella (Hbn.), or the Mediterranean flour moth, Ephestia kuehniella.

Institute of Plant Protection, Poznan.

Grant FG-Po-141 executed May 29, 1962. Duration: Five years.

Amount: 433,800 Polish zlotys (\$18,075. equivalent).

POLANDMarketing Research (continued)

E21-MQ-1(a)

Ecology of mites attacking dried fruits and herbs.

Department of Applied Entomology, Warsaw Agricultural University,
Warsaw.

Grant FG-Po-195 executed March 20, 1966. Duration: Five years.

Amount: 839,205 Polish zlotys (\$34,967. equivalent).

Utilization Research

UR-E21-(40)-6

Chromatographic determination of the glyceride composition of selected erucic acid-containing oils, to provide basic information important to their utilization.

Institute of General Chemistry, Division of Fats and Detergents,
Warsaw.

Grant FG-Po-136 executed May 31, 1962. Duration: Five years.

Amount: 1,382,810 Polish zlotys (\$57,617. equivalent).

UR-E21-(10)-11

Investigations on the fermentative production of itatartaric acid from glucose, sucrose, or molasses.

Chair of Industrial Microbiology, Polytechnical School of Lodz,
Lodz.

Grant FG-Po-156 executed September 5, 1963. Duration: Five years.

Amount: 1,056,920 Polish zlotys (\$44,038. equivalent).

UR-E21-(10)-18

Studies of the coenzyme role of riboflavin of wheat endosperm to provide information on the functional properties of wheat in food products, leading to expanded utilization of wheat.

Agricultural Higher School, Chair of Agricultural Technology, Poznan.

Grant FG-Po-144 executed August 1, 1962 (eff. 9/1/62). Duration:
Four years.

Amount: 791,220 Polish zlotys (\$32,978. equivalent).

UR-E21-(60)-21

Investigations of the mechanisms of the cheese ripening process, to obtain fundamental information for use in developing methods for manufacture of improved quality cheese.

College of Agriculture, Olsztyn.

Grant FG-Po-151 executed April 29, 1963. Duration: Five years.

Amount: 1,007,822 Polish zlotys (\$41,993. equivalent).

UR-E21-(60)-24

A study of the antioxidant components of wood smoke used in meat curing and the effects of methods of generation on the quantity and activity of the antioxidant components of the smoke, to obtain information for use in preparing improved smoked meat products.

Polytechnical University, Gdansk.

Grant FG-Po-152 executed April 30, 1963. Duration: Five years.

Amount: 1,605,640 Polish zlotys (\$66,902. equivalent).

POLANDUtilization Research (continued)

UR-E21-(20)-27

An investigation of the mathematical and theoretical aspects of the relationship between the fiber-length distribution of cotton specimens before and after sample preparation, to obtain basic information needed to improve cotton processing.

Politechnika Lodzka, Gdansk.

Grant FG-Po-164 executed July 1, 1964. Duration: Three years.

Amount: 455,675 Polish zlotys (\$18,986. equivalent).

UR-E21-(40)-28

A study of the kinetics and thermodynamics of fat autoxidation by polarographic and potentiometric methods, to obtain basic information for expanding the utilization of fats.

Department of Fat Technology, Technical University, Gdansk.

Grant FG-Po-165 executed September 1, 1964. Duration: Five years.

Amount: 966,975 Polish zlotys (\$40,291. equivalent).

UR-E21-(60)-29

Investigation of thermally stable stationary phases suitable for the analysis of complex lipid fatty acid esters by gas-liquid chromatography, to obtain basic information for use in the expanded utilization of animal fats.

Department of Fat Technology, Technical University, Gdansk.

Grant FG-Po-173 executed September 1, 1965. Duration: Five years.

Amount: 911,750 Polish zlotys (\$37,990. equivalent).

UR-E21-(10)-34

Studies of carotene biosynthesis by the mold Blakeslea trispora, with emphasis on factors in spent mycelia of the mold that stimulate carotene production, to increase the yield of beta-carotene obtained by fermentation of cereal grains.

Chair of Agricultural Technology, Agricultural University, Poznan.

Grant FG-Po-186 executed January 1, 1966. Duration: Four years.

Amount: 855,050 Polish zlotys (\$35,627. equivalent).

SPAINEconomic Research

E25-ERS-1(k)

Food consumption in relation to family income in the rural population in Spain.

Comisaria General de Abastecimientos y Transportes, Madrid.

Grant FG-Sp-129 executed July 5, 1963. Duration: Three years.

Amount: 4,500,000 Spanish pesetas (\$75,276. equivalent).

SPAIN (continued)Farm Research

E25-ADP-3

Decarboxylating enzymes of plant and animal origin (to determine their role in physical well-being of animals).

Spanish Institute of Physiology and Biochemistry, University of Madrid, Madrid.

Grant FG-Sp-131 executed October 28, 1963. Duration: Four years.
Amount: 1,545,000 Spanish pesetas (\$25,845. equivalent).

E25-ADP-4

Study of rapid and accurate diagnostic methods for African Swine Fever.

Servicio de Patologia, "Patronato de Biologia Animal," Madrid.

Grant FG-Sp-119 executed July 24, 1961. Duration: Five years.
Amount: 10,621,000 Spanish pesetas (\$177,379. equivalent).

E25-AH-6

A pilot study with *Tribolium* of the influence of environmental stress on genetic parameters and response to selection. (Results applicable to poultry genetics).

Instituto Nacional de Investigaciones Agronomicas, Madrid.

Grant FG-Sp-137 executed May 23, 1964. Duration: Five years.
Amount: 3,445,125 Spanish pesetas (\$57,630. equivalent).

E25-CR-5

Breeding by induction of polyploidy in sugar beet and rye.

Estacion Experimental de Aulo Dei, Zaragoza.

Grant FG-Sp-120 executed August 1, 1961. Duration: Five years.
Amount: 3,462,301 Spanish pesetas (\$57,850. equivalent).

E25-CR-14

Freeing potato seed-tubers of viruses.

Instituto Nacional de Investigaciones Agronomicas, Madrid.

Grant FG-Sp-128 executed June 25, 1963. Duration: Five years.
Amount: 2,867,500 Spanish pesetas (\$47,960. equivalent).

E25-CR-18

Chemical and physiological changes in fungi during autolysis.

Instituto "Jaime Ferran" de Microbiologia, Madrid.

Grant FG-Sp-136 executed May 1, 1964. Duration: Three years.
Amount: 1,480,910 Spanish pesetas (\$24,777. equivalent).

E25-SWC-7

Study of the retention of some substances of insecticidal and weed-controlling potential by the principal specific clay constituents.

Faculty of Science, University of Granada, Granada.

Grant FG-Sp-132 executed October 31, 1963. Duration: Five years.
Amount: 4,483,000 Spanish pesetas (\$74,992. equivalent).

SPAIN (continued)Forestry Research

E25-FS-14

Ontogenesis of enzymes induced in pine seed through cold stratification.
 Instituto Espanol de Fisiologia y Bioquimica, Ciudad Universitaria,
 Madrid.

Grant FG-Sp-110 executed September 4, 1962 (eff. 10/1/62). Duration:
 Four years.

Amount: 1,769,000 Spanish pesetas (\$29,508. equivalent).

E25-FS-15

Oligo-elements concentration of floral and foliar parts of forest trees.

Instituto Espanol de Fisiologia y Bioquimica, Facultad de
 Farmacia, Ciudad Universitaria, Madrid.

Grant FG-Sp-126 executed July 26, 1962. Duration: Four years.

Amount: 2,020,000 Spanish pesetas (\$33,695. equivalent).

E25-FS-16

Isolation and identification of plant hormones associated with callus
 and root formation on woody cuttings.

Facultad de Farmacia, Universidad de Santiago de Compostela,
 Santiago.

Grant FG-Sp-125 executed April 27, 1962 (eff. 10/1/62). Duration:
 Five years.

Amount: 3,871,800 Spanish pesetas (\$64,530. equivalent).

E25-FS-23

Spanish contribution to multilingual forest terminology with Hispano-
 American terms.

Instituto Forestal de Investigaciones y Experiencias, Madrid.

Grant FG-Sp-130 executed July 9, 1963. Duration: Four years.

Amount: 4,690,000 Spanish pesetas (\$78,454. equivalent).

E25-FS-24

Biosynthesis of terpenes in pine.

Faculty of Pharmacy, University of Granada, Granada.

Grant FG-Sp-145 executed September 12, 1965. Duration: Four years.

Amount: 3,552,000 Spanish pesetas (\$59,289. equivalent).

E25-FS-26

Microbial control of the gypsy moth with emphasis on pathogens.

Forest Pest Service, Ministry of Agriculture, Madrid.

Grant FG-Sp-147 executed April 25, 1966. Duration: Three years.

Amount: 1,500,000 Spanish pesetas (\$25,042. equivalent).

E25-FS-27

Studies on firebrands and pool fires.

National Institute of Aeronautical Technology, Madrid.

Grant FG-Sp-146 executed May 2, 1966. Duration: One year.

Amount: 885,122.60 Spanish pesetas (\$14,777. equivalent).

SPAIN (continued)Marketing Research

E25-AMS-6(k)

The detection of additives in citrus juices.

Departamento de Quimica Vegetal, Patronato "Juan de la Cierva,"
Valencia.

Grant FG-Sp-127 executed June 15, 1963 (eff. 7/1/63). Duration:
Four years.

Amount: 3,358,016 Spanish pesetas (\$56,163. equivalent).

E25-AMS-7(a)

Development and evaluation of equipment and methods for determining
the proportions of durum wheat (semolina) and common wheat (farina)
in macaroni and spaghetti products.

Instituto Nacional de Investigaciones Agronomicas, Madrid.

Grant FG-Sp-134 executed February 12, 1964. Duration: Five years.

Amount: 2,603,750 Spanish pesetas (\$43,563. equivalent).

E25-AMS-8(a)

Study of changes occurring in egg whites during cold storage.

Centro Experimental del Frio, Madrid.

Grant FG-Sp-139 executed September 1, 1964. Duration: Three years.

Amount: 1,576,633 Spanish pesetas (\$26,370. equivalent).

E25-AMS-9(a)

Basic studies on aging of milled rice and application to discriminating
quality factors.

Consejo Superior de Investigaciones Cientificas, Patronato, "Juan
de la Cierva" de Investigacion Tecnica, Valencia.

Grant FG-Sp-138 executed July 1, 1964. Duration: Four years.

Amount: 3,735,618 Spanish pesetas (\$62,479. equivalent).

Utilization Research

UR-E25-(40)-19

An investigation of the rate of reaction of protein with carbohydrates in
peanuts, to provide information leading to improved peanut products, thereby
increasing the utilization of this commodity.

University of Granada, Granada.

Grant FG-Sp-143 executed September 1, 1965. Duration: Three years.

Amount: 2,203,800 Spanish pesetas (\$36,785. equivalent).

UR-E25-(60)-22

Preparation of confectionery fats closely resembling cocoa butter from
animal fats by modified directed interesterification.

Patronato "Juan de la Cierva," Madrid.

Grant FG-Sp-123 executed April 5, 1962 (eff. 9/1/62). Duration:
Five years.

Amount: 2,451,000 Spanish pesetas (\$40,850. equivalent).

SPAINUtilization Research (continued)

UR-E25-(40)-29

Improvement of the frying quality of soybean oil through studies of the influence of processing factors and oil modifications on surface tension, interfacial tension, viscosity and other physical properties concerned with its penetration into fried foods.

Department of Animal Physiology, University of Granada, Granada.
Grant FG-Sp-124 executed March 30, 1962. Duration: Five years.
Amount: 3,828,000 Spanish pesetas (\$63,800. equivalent).

UR-E25-(20)-31

A study of the measurement of the "total hairiness" of cotton yarn, and the determination of mechanical factors contributing to its formation, to obtain basic information needed to improve the processing of cotton into textiles.

Patronato "Juan de la Cierva" de Investigacion Tecnica, Barcelona.
Grant FG-Sp-133 executed February 10, 1964. Duration: Five years.
Amount: 4,476,250 Spanish pesetas (\$74,891. equivalent).

UR-E25-(50)-36

Development of new or improved methods of synthesizing, isolating, and purifying selected terpene alcohols for use as standards, to obtain basic information on the composition and properties of products made from pine gum as an aid in developing new industrial uses for naval stores products.

Patronato "Juan de la Cierva" de Investigacion Tecnica, Universidad de Barcelona, Barcelona.
Grant FG-Sp-135 executed May 1, 1964. Duration: Three years.
Amount: 4,467,000 Spanish pesetas (\$74,736. equivalent).

UR-E25-(60)-37

Determination of the thermal and related physical properties of milk and milk products, to provide basic information necessary for the preparation of improved milk concentrates.

Patronato "Juan de la Cierva" de Investigacion Tecnica, Madrid.
Grant FG-Sp-140 executed November 4, 1964. Duration: Five years.
Amount: 4,159,500 Spanish pesetas (\$69,568. equivalent).

UR-E25-(20)-42

Investigation of the effect of fiber properties on drafting tenacity during spinning of cotton and the interrelationships between fiber properties, drafting tenacity, yarn properties and end breakage, to obtain basic information related to processing properties in the utilization of cotton.

Patronato "Juan de la Cierva" de Investigacion Tecnica, Barcelona.
Grant FG-Sp-144 executed October 1, 1965. Duration: Four years.
Amount: 3,348,800 Spanish pesetas (\$55,897. equivalent).

SPAINUtilization Research (continued)

UR-E25-(10)-45

Investigation of the distribution of the actinomycete family of micro-organisms in Spain, with particular emphasis on their isolation, characterization, antibiotic production, and preservation for placement in the Culture Collection of the Agricultural Research Service as potential agents for the conversion of farm-produced raw materials to products useful to industry and the consuming public.

Instituto Nacional de Investigaciones Agronomicas (National Institute of Agronomic Investigations), Madrid.

Grant FG-Sp-142 executed July 5, 1965. Duration: Four years.

Amount: 2,286,000 Spanish pesetas (\$38,157. equivalent).

SWEDENUtilization Research

UR-E26-(20)-1

Investigation of the mechanism of crease formation and recovery in ease-of-care treated cotton fabrics, to supply fundamental knowledge required for the design of improved textiles, thereby increasing the utilization of cotton.

Swedish Institute for Textile Research (TEFO), Goteborg.

Grant FG-Sw-108 executed March 1, 1965. Duration: Four years.

Amount: 609,000 Swedish kronor (\$118,367. equivalent).

UR-E26-(20)-2

Fundamental investigation of setting reactions for cotton fabrics and garments, to develop information basic to the improvement of cotton products.

Swedish Institute for Textile Research, Goteborg.

Grant FG-Sw-100 executed-September 19, 1961. Duration: Five years.

Amount: 521,900 Swedish kronor (\$101,242. equivalent).

UR-E26-(40)-3

Compositional investigations of Swedish Cruciferae (mustard family) seeds to find strains with maximum erucic acid content in their oils and minimum content of glucosidic precursors of isothiocyanates and thiooxazolidones in their meals, to provide a basis for their utilization as industrial oilseeds in the United States.

The Swedish Seed Association, Svalof.

Grant FG-Sw-101 executed June 11, 1963. Duration: Five years.

Amount: 251,195 Swedish kronor (\$48,400. equivalent).

UR-E26-(30)-5

A study of the autoxidation of fats in systems that exist in dehydrated procedures resulting in decreased tendency toward rancidification, thus leading to increased utilization of vegetables.

Swedish Institute for Food Preservation Research (SIK), Goteborg.

Grant FG-Sw-103 executed May 2, 1963. Duration: Four years.

Amount: 403,115 Swedish kronor (\$77,671. equivalent).

SWEDENUtilization Research (continued)

UR-E26-(20)-6

Basic investigation of the behavior of cotton subjected to aerodynamic forces, for the purpose of improving the processing characteristics of cotton textiles.

Chalmers University of Technology, Goteborg.

Grant FG-Sw-102 executed August 28, 1963. Duration: Three years.

Amount: 296,905 Swedish kronor (\$57,292. equivalent).

UR-E26-(20)-7

Investigations of the distribution of sulfur in wool keratin, to provide fundamental understanding of keratin structure needed to guide improvement of wool fiber properties.

Department of Medical Physics, Karolinska Institutet, Stockholm.

Grant FG-Sw-105 executed January 30, 1964. Duration: Three years.

Amount: 224,121 Swedish kronor (\$43,183. equivalent).

UR-E26-(60)-9

Development of methods for purification of protein complexes and studies of their structure with emphasis on methods applicable to milk.

Institute of Biochemistry, University of Uppsala, Uppsala.

Grant FG-Sw-104 executed December 15, 1963. Duration: Five years.

Amount: 362,430 Swedish kronor (\$69,967. equivalent).

UR-E26-(30)-11

Investigation of the role of metals in enzyme action to provide a basis for use or control of these enzymes during dehydration of vegetables, thereby increasing the market potential of vegetable products.

Department of Biochemistry, University of Goteborg, Goteborg.

Grant FG-Sw-107 executed January 1, 1965. Duration: Five years.

Amount: 210,677 Swedish kronor (\$40,948. equivalent).

SWITZERLANDUtilization Research

UR-E27-(10)-1

A study of the soluble pentosans and associated proteins of wheat flour, and their relation to rheological behavior and oxidative improvement, as a contribution to expanded markets for wheat.

Swiss Federal Institution of Technology, Department of Agricultural Chemistry, Zurich.

Grant FG-Switz-101 executed May 1, 1964. Duration: Five years.

Amount: 235,000 Swiss francs (\$54,486. equivalent).

UR-E27-(20)-2

A study of the chemistry and structural nature of the bonds formed between formaldehyde and cellulose in formaldehyde-treated cottons, to provide basic information needed to improve the utility of cotton fabrics.

Swiss Federal Institute of Technology, Zurich.

Grant FG-Switz-100 executed June 11, 1964. Duration: Five years.

Amount: 280,440 Swiss francs (\$64,902. equivalent).

TAIWAN (Republic of China)Farm Research

A6-ADP-1

Investigation on the leucocytozoon infection in chickens and development of effective treatment.

National Taiwan University, Taipei.

Grant FG-Ta-111 executed October 22, 1964. Duration: Three years.

Amount: 529,800 New Taiwan dollars (\$13,245. equivalent).

A6-CR-4

Cytogenetical studies of rice and its related species.

Institute of Botany, Academia Sinica, Taipei.

Grant FG-Ta-102 executed July 2, 1963. Duration: Five years.

Amount: 780,000 New Taiwan dollars (\$19,500. equivalent).

A6-CR-8

Studies on the physiological races of rice blast fungus, Piricularia oryzae Cav.

Taiwan Agricultural Research Institute, Taipei.

Grant FG-Ta-107 executed June 30, 1964. Duration: Three years.

Amount: 618,400 New Taiwan dollars (\$15,460. equivalent).

A6-CR-12

Genetic studies on the characters of mutations induced by radiations in rice.

College of Agriculture, Taiwan Provincial Chung-Hsing University, Taichung.

Grant FG-Ta-110 executed October 15, 1964. Duration: Three years.

Amount: 547,400 New Taiwan dollars (\$13,685. equivalent).

A6-ENT-4

Biological control of citrus, tobacco and vegetable aphids.

Taiwan Agricultural Research Institute, Taipei.

Grant FG-Ta-112 executed April 15, 1965. Duration: Five years.

Amount: 1,106,200 New Taiwan dollars (\$27,655. equivalent).

Forestry Research

A6-FS-2

Monograph of the genus Abies (firs).

Department of Forestry, College of Agriculture, National Taiwan University, Taipei.

Grant FG-Ta-101 executed May 27, 1963 (eff. 7/1/63). Duration: Four years.

Amount: 783,080 New Taiwan dollars (\$19,577. equivalent).

A6-FS-3

Important epidemic diseases of forest trees.

National Taiwan University, Taipei.

Grant FG-Ta-103 executed July 11, 1963. Duration: Five years.

Amount: 700,000 New Taiwan dollars (\$17,500. equivalent).

TAIWAN (Republic of China)Forestry Research (continued)

A6-FS-4

Biological study of the more important insect pests attacking genus Pinus introduced from the U. S. A.

College of Agriculture, National Taiwan University, Taipei.

Grant FG-Ta-104 executed July 11, 1963. Duration: 3 1/2 years.

Amount: 1,230,600 New Taiwan dollars (\$30,765. equivalent).

Human Nutrition Research

A6-HN-1(a)

Studies on the nutritive values of protein and availability of amino acids to human subjects from common Chinese foodstuffs.

National Defense Medical Center, Taipei.

Grant FG-Ta-105 executed July 2, 1963. Duration: Four years.

Amount: 687,800 New Taiwan dollars (\$17,195 equivalent).

Utilization Research

UR-A6-(40)-1

Investigation of the various processes used in preparing Chinese cheese by the fermentation of soybean curd with Mucor and other fungi.

Institute of Chemistry, Academia Sinica, Nankang.

Grant FG-Ta-100 executed January 28, 1963. Duration: Five years.

Amount: 1,306,000 New Taiwan dollars (\$32,650. equivalent).

UR-A6-(30)-3

Fundamental studies on the formation of hemicelluloses as plant cell wall constituents, to supply knowledge needed in developing methods for improving the texture of processed fruits.

College of Agriculture, National Taiwan University, Taipei.

Grant FG-Ta-108 executed October 6, 1964. Duration: Four years.

Amount: 471,000 New Taiwan dollars (\$11,775. equivalent).

UR-A6-(60)-4

Preparation of a new type of semi-dehydrated fried meat product, in the interest of expanding the utilization of meat.

Department of Animal Husbandry, Taiwan Provincial Chung-Hsing University, Taichung.

Grant FG-Ta-109 executed September 25, 1964. Duration: Three years.

Amount: 595,985 New Taiwan dollars (\$14,900. equivalent).

TURKEYFarm Research

A22-ADP-4

Horse bots (Gasterophilus pseudo-hemorrhoidalis) in Turkey; its distribution, life cycle, economic importance, treatment and control.

Ankara University, Veterinary Faculty, Ankara.

Grant FG-Tu-104 executed July 6, 1962. Duration: Four years.

Amount: 134,100 Turkish liras (\$14,900. equivalent).

TURKEYFarm Research (continued)

A22-ADP-6

Artificial cultivation of the virus of sheep pox on Hanks culture media, preparation of a vaccine and control of this vaccine in experimental animals.

Veterinary Faculty, Ankara University, Ankara.

Grant FG-Tu-107 executed January 6, 1964. Duration: Three years.

Amount: 218,840 Turkish liras (\$24,316. equivalent).

A22-ADP-7

Study of the horse sickness virus (HSV) in tissue culture, its serological and immunological characteristics, and vectors.

Veterinary Faculty, University of Ankara, Ankara.

Grant FG-Tu-109 executed January 23, 1964. Duration: Three years.

Amount: 183,820 Turkish liras (\$20,424. equivalent).

A22-ADP-8

Foot-and-mouth disease in Turkey, its virus types, its virus production in tissue and cultures and comparative studies with cattle, sheep, goat and guinea-pig kidney tissue cultures, vaccine production with these viruses and experimental application for the control of this disease.

Laboratories of Foot-and-Mouth Disease and Tissue Culture,
Ministry of Agriculture, Etlik.

Grant FG-Tu-108 executed February 20, 1964. Duration: Four years.

Amount: 249,750 Turkish liras (\$27,750. equivalent).

A22-ADP-9

Research on neurosurgical conditions of domestic animals in Turkey and experimental studies of neurosurgical problems.

Veterinary Faculty, University of Ankara, Ankara.

Grant FG-Tu-112 executed August 31, 1965. Duration: Three years.

Amount: 178,765 Turkish liras (\$19,863. equivalent).

A22-AH-2

White muscle disease of lambs.

Veterinary Faculty, University of Ankara, Ankara.

Grant FG-Tu-106 executed May 13, 1963. Duration: Five years.

Amount: 84,000 Turkish liras (\$9,333. equivalent).

A22-CR-4

Botanical exploration of eastern Turkey for plant materials of potential use as new crops for the United States and Turkey.

Faculty of Agriculture, University of Ankara, Ankara.

Grant FG-Tu-111 executed March 10, 1965. Duration: Two years.

Amount: 250,000 Turkish liras (\$27,778. equivalent).

UNITED KINGDOMFarm Research

E29-ADP-4

Study of etiological factors involved in scrapie disease in sheep as a basis for developing methods for eradication or control.

Animal Diseases Research Association, Moredun Institute, Edinburgh, Scotland.

Grant FG-UK-146 executed February 15, 1966. Duration: Two years.
Amount: 26,800 (British) pounds sterling (\$75,112. equivalent).

E29-ADP-5

Investigation of scrapie, a transmissible disease of sheep of obscure etiology.

Agricultural Research Council, Institute for Research on Animal Diseases, Berkshire, England.

Grant FG-UK-145 executed March 1, 1966. Duration: Two years.
Amount: 26,800 (British) pounds sterling (\$75,112. equivalent).

Utilization Research

UR-E29-(10)-38

Separation of the total protein of wheat flour in soluble form by means of certain metallic and acidic ions, to provide fundamental information valuable in expanding the utilization of wheat flour and wheat proteins.

Research Association of British Flour-Millers, Cereals Research Station, Herts, England.

Grant FG-UK-134 executed December 11, 1962. Duration: Four years.
Amount: 25,965 (British) pounds sterling (\$72,751. equivalent).

UR-E29-(10)-51

Investigation of sugars, their phosphate derivatives, and related compounds, as found in molds important to the fermentative conversion of cereal grains to useful products.

Department of Chemistry, University of Newcastle -upon-Tyne, Newcastle-upon-Tyne, England.

Grant FG-UK-132 executed January 5, 1962. Duration: Five years.
Amount: 14,150 (British) pounds sterling (\$39,736. equivalent).

UR-E29-(10)-52

Investigations of the carbohydrase enzyme systems of alfalfa and their use in structural analysis of alfalfa polysaccharides, to provide information necessary for development of improved processed alfalfa products.

Department of Chemistry, University of Edinburgh, Edinburgh, Scotland.

Grant FG-UK-133 executed February 20, 1962 (eff. 6/1/62). Duration: Five years.

Amount: 23,650 (British) pounds sterling (\$66,601. equivalent).

UNITED KINGDOMUtilization Research (continued)

UR-E29-(20)-55

A fundamental study of the preparation and properties of phosphazene (phosphonitrilic) and phosphoryl chloride derivatives having potential for reaction with cotton cellulose, to obtain information needed in the development of new useful products from cotton, thus increasing its utilization.

Birkbeck College, University of London, London, England.

Grant FG-UK-135 executed May 13, 1963. Duration: Four years.

Amount: 19,712 (British) pounds sterling (\$55,200. equivalent).

UR-E29-(20)-56

A study of the structural environment of cystine in wool, to provide fundamental information required to improve the character of wool as a textile fiber, thus increasing prospects for its utilization.

Wool Industries Research Association, Torridon, Headingley Lane, Leeds, England.

Grant FG-UK-141 executed June 1, 1964. Duration: Three years.

Amount: 29,117 (British) pounds sterling (\$81,446. equivalent).

UR-E29-(20)-65

A study of the effect of caustic soda and other swelling agents on the fine structure of cotton, to obtain basic information needed to improve cotton products and thereby enhance the utilization of cotton.

The Cotton Silk and Man-Made Fibres Research Association,
Shirley Institute, Manchester, England.

Grant FG-UK-139 executed October 31, 1963. Duration: Five years.

Amount: 40,902 (British) pounds sterling (\$114,475. equivalent).

UR-E29-(60)-67

Investigation of chemically reactive compounds for the improvement of leather stability and the maintenance of desirable characteristics.

British Leather Manufacturer's Research Association, Surrey, England.

Grant FG-UK-136 executed December 1, 1963. Duration: Five years.

Amount: 20,663 (British) pounds sterling (\$57,831. equivalent).

UR-E29-(10)-69

Fundamental studies of the nature and specificity of starch- and glycogen-debranching enzymes, and application of these enzymes to a study of the fine structures of amylopectins, amyloses, and glycogens of cereal grains, to provide a basis for increased utilization of cereal grains.

Royal Free Hospital, School of Medicine, University of London, London, England.

Grant FG-UK-138 executed November 8, 1963. Duration: Five years.

Amount: 20,647 (British) pounds sterling (\$57,786. equivalent).

UNITED KINGDOMUtilization Research (continued)

UR-E29-(60)-70

Investigation of specific reducing systems of pork muscle, in order to devise better methods for color fixation during curing.

British Food Manufacturing Industries Research Association,
Leatherhead, Surrey, England.

Grant FG-UK-137 executed January 1, 1964. Duration: Five years.
Amount: 31,668 (British) pounds sterling (\$88,631. equivalent).

UR-E29-(10)-71

Investigations of the mechanism and structural changes involved by thermal, acid, or alkali degradation of cereal starches, to provide basic information for the development of new starch products suited for industrial applications.

Department of Chemistry, University of Edinburgh, Edinburgh, Scotland.

Grant FG-UK-140 executed September 1, 1964. Duration: Five years.
Amount: 23,160 (British) pounds sterling (\$64,693. equivalent).

UR-E29-(10)-76

Studies of the structure of dough and baked products as a function of interactions between dough constituents, with special reference to interactions involving lipids, in order to improve the utilization of different wheats in baking technology.

British Baking Industries Research Association, Chorleywood, Herts,
England.

Grant FG-UK-143 executed October 1, 1964. Duration: Five years.
Amount: 36,696 (British) pounds sterling (\$102,160. equivalent).

UR-E29-(20)-78

Investigation of chemical modifications of cotton fabrics involving control of lateral molecular order and distribution of crosslinks, to provide basic information needed to improve the performance characteristics of cotton fabrics as a means of increasing their utilization.

The Cotton Silk and Man-Made Fibres Research Association, Shirley
Institute, Didsbury, Manchester, England.

Grant FG-UK-144 executed February 1, 1965. Duration: Three years.
Amount: 30,994 (British) pounds sterling (\$86,503. equivalent).

URUGUAYFarm Research

S9-ADP-1

Investigations on diagnosis and methods of prevention and treatment of anaplasmosis, piroplasmosis, and babesiellosis of cattle and further characterization of the causative agents.

School of Veterinary, University of the Republic, Montevideo.

Grant FG-Ur-102 executed October 31, 1961 (eff. 3/15/62). Duration:
Five years.

Amount: 1,656,710 Uruguayan pesos (\$91,210. equivalent).

URUGUAYFarm Research (continued)

S9-AH-1

The nutritional value of fish silage produced by yeast fermentation for animal feeding.

University of Montevideo, Montevideo.

Grant FG-Ur-106 executed December 4, 1962. Duration: Five years.

Amount: 1,650,000 Uruguayan pesos (\$81,170. equivalent).

S9-ENT-6

Systematic collection, identification and classification of the grasshoppers of Uruguay and neighboring territories of Southern Brazil, Southern Paraguay and adjacent provinces of Argentina.

College of Humanities and Sciences, University of the Republic, Montevideo.

Grant FG-Ur-105 executed November 24, 1961. Duration: Five years.

Amount: 610,195 Uruguayan pesos (\$23,092. equivalent).

S9-ENT-7

Investigations on natural enemies of ants.

Ministerio de Ganaderia y Agricultura, Centro de Investigaciones de Fruticultura, Horticultura y Vitivinicultura, Montevideo.

Grant FG-Ur-111 executed April 22, 1966. Duration: Two years.

Amount: 1,308,600 Uruguayan pesos (\$19,619. equivalent).

Forestry Research

S9-FS-1

Disease and insect susceptibility and species adaptability of North American conifers planted in Uruguay.

Universidad de la Republica, Facultad de Agronomia, Montevideo.

Grant FG-Ur-109 executed August 1, 1962. Duration: Five years.

Amount: 1,400,000 Uruguayan pesos (\$65,461. equivalent).

Marketing Research

S9-AMS-6(a)

Underground storage of corn in airtight silos.

Ministerio de Ganaderia y Agricultura, Montevideo.

Grant FG-Ur-108 executed May 4, 1962. Duration: Five years.

Amount: 917,700 Uruguayan pesos (\$58,821. equivalent).

YUGOSLAVIAFarm Research

E30-AH-6

Protein metabolism in monogastric animals connected with their requirements for essential limited amino acids.

Institute for the Application of Nuclear Energy in Agriculture, Veterinary Medicine and Forestry, Belgrade, Zemun.

Grant FG-Yu-115 executed June 6, 1966. Duration: Five years.

Amount: 1,180,125 new Yugoslav dinars (\$94,410. equivalent).

YUGOSLAVIAFarm Research (continued)

E30-CR-4

Classification and evolutionary relationship of Yugoslav domestic maize varieties.

Maize Research Institute, Belgrade-Zemun.

Grant FG-Yu-105 executed September 11, 1965. Duration: Two and one-half years.

Amount: 248,065 new Yugoslav dinars (\$19,845. equivalent).

E30-CR-6

Investigation of causes of corn redness in Yugoslavia.

Federal Institute for International Cooperation, Belgrade.

Grant FG-Yu-104 executed April 1, 1965. Duration: Five years.

Amount: 695,185 new Yugoslav dinars (\$62,815. equivalent).

E30-CR-12

Collecting and studying indigenous wild small fruit types and breeding varieties with a high C vitamin content.

Department of Horticulture and Viticulture, Agricultural Institute of Slovenia, Ljubljana.

Grant FG-Yu-112 executed April 15, 1966. Duration: Five years.

Amount: 622,950 new Yugoslav dinars (\$49,836. equivalent).

E30-CR-14

Investigation of sources of resistance of leaf rust of wheat in the European and Near East countries.

Department of Wheat Genetics and Breeding, Institute for Agricultural Research, Novi Sad.

Grant FG-Yu-114 executed April 21, 1966. Duration: Five years.

Amount: 726,352.50 new Yugoslav dinars (\$58,108. equivalent).

E30-CR-18

Breeding corn for high oil and high protein content.

Maize Research Institute, Belgrade-Zemun.

Grant FG-Yu-108 executed March 1, 1966. Duration: Five years.

Amount: 1,043,900 new Yugoslav dinars (\$83,512. equivalent).

E30-CR-23

A genetic analysis of the ramification factor with the wheat species Triticum vulgare and Triticum turgidum, and the action of the ramification genes by interacting on the genic complex of the species Triticum vulgare.

Institute for Plant Breeding and Plant Protection, Faculty of Agriculture, University of Zagreb, Zagreb.

Grant FG-Yu-111 executed March 15, 1966. Duration: Five years.

Amount: 486,200 new Yugoslav dinars (\$38,896. equivalent).

YUGOSLAVIAFarm Research (continued)

E30-CR-27

Development of forms of pepper (Capsicum annum L.) with berries which can be easily detached from their petioles and discovering male sterile lines of peppers for application in hybrid seed production.

Institute for Vegetables, Smederevska Palanka.

Grant FG-Yu-107 executed March 1, 1966. Duration: Five years.

Amount: 715,210 New Yugoslav dinars (\$57,217. equivalent).

E30-ENT-1

Bioecological investigations of the pink bollworm (Pectinophora - Platyedra gossypiella Saund.), under the conditions of the southeast of the SR Macedonia.

Institute for Cotton, Strumica.

Grant FG-Yu-106 executed February 1, 1966. Duration: Five years.

Amount: 486,125 new Yugoslav dinars (\$38,890. equivalent).

E30-ENT-2

Investigation of leaf miners in orchards.

Institute for Plant Protection, University of Zagreb, Zagreb.

Grant FG-Yu-113 executed April 15, 1966. Duration: Five years.

Amount: 567,250 new Yugoslav dinars (\$45,380. equivalent).

E30-ENT-3

Parasites, predators, and pathogenic organisms study of the cereal leaf beetle, (Oulema melanopa L.), and resistance of domestic and foreign small grain varieties to the insect.

Plant Protection Institute, Belgrade; and Institute for Agricultural Research, Kragujevac.

Grant FG-Yu-109 executed March 1, 1966. Duration: Five years.

Amount: 896,058 new Yugoslav dinars (\$71,685. equivalent).

E30-SWC-1

The influence of some factors on transpiration and content of different water-forms in wheat regarding the plant productivity.

Institute for Agricultural Research, Novi Sad.

Grant FG-Yu-116 executed June 7, 1966. Duration: Five years.

Amount: 654,505 new Yugoslav dinars (\$52,360. equivalent).

Forestry Research

E30-FS-2

Study of the polyhedral virus disease of the gypsy moth.

Institute of Plant Protection, Banatska 33, Zemun.

Grant FG-Yu-101 executed December 25, 1963. Duration: Five years.

Amount: 399,850 new Yugoslav dinars (\$42,390. equivalent).

YUGOSLAVIAForestry Research (continued)

E30-FS-5

Susceptibility of selected North American forest tree species planted in Yugoslavia to insects and diseases.

Yugoslav Institute for Conifers, Jastrebarsko.

Grant FG-Yu-110 executed March 1, 1966. Duration: Five years.

Amount: 893,442 new Yugoslav dinars (\$71,475. equivalent).

Utilization Research

UR-E30-(10)-1

Studies of the modification of cereal grain starches by physical treatment of granular starch under different conditions of moisture, temperature, pressure, and ultrasonic vibration, in order to impart new paste properties as a basis for increased utilization of cereal grains.

Slovenian Academy of Sciences and Arts, Ljubljana.

Grant FG-Yu-103 executed April 11, 1964. Duration: Five years.

Amount: 1,021,000 new Yugoslav dinars (\$93,212. equivalent).

RESEARCH AGREEMENTS COMPLETED OR TERMINATED
July 1, 1965 through June 30, 1966

BRAZIL

S3-AH-7 (FG-Br-104)

Structural and physiological characteristics associated with adaptability of cattle in tropical and subtropical areas.

Instituto de Zootecnia, Pirassununga, Sao Paulo.

Five year agreement TERMINATED December 31, 1965.

CEYLON

A5-CR-1 (FG-Ce-100)

Control of the root-lesion nematode, Pratylenchus loosi.

Tea Research Institute, Talawakelle.

Four year agreement COMPLETED March 19, 1966.

COLOMBIA

S5-CR-1 (FG-Co-102)

Chemical screening in the plant family Solanaceae for the steroidal solasodine.

University of Antioquia, Medellin.

Four year agreement COMPLETED November 1, 1965.

S5-AMS-3(a) (FG-Co-103)

A study of some chemical and physiological variables of avocado and papaya fruits during ripening and storage.

Institute of Technological Investigations, Bogota.

Four year agreement COMPLETED January 14, 1966.

UR-S5-(30)-2 (FG-Co-108)

Investigation on the stabilization of flavor concentrates of selected tropical fruits, as a contribution to the development of full-flavored concentrates and powders and thus to the expansion of markets for tropical fruits.

Instituto de Investigaciones Techologicas, Bogota.

Three year agreement COMPLETED January 14, 1966.

EGYPT (United Arab Republic)

F4-CR-1 (FG-Eg-100)

Identification of physiologic races in wheat rusts, and studying genetics of rust and smut resistance in wheat and net blotch resistance in barley using local and imported resistant stocks.

Ministry of Agriculture, Orman, Giza.

Five year agreement COMPLETED February 10, 1966.

EGYPT (continued)

F4-ENT-3 (FG-Eg-101)

Induced sterility of males of the Mediterranean fruitfly, Ceratitis capitata, as a means of controlling and possibly eradicating that pest.

Plant Protection Department, Dokki.

Five year agreement COMPLETED February 10, 1966.

F4-ENT-8(C)

Purchase of synoptic collection of Egyptian insects (includes bees, wasps, beetles, and moths).

Purchased from Dr. Anastase Alfieri, Cairo.

Purchase agreement COMPLETED February 11, 1966.

FINLAND

E8-ERS-1(k) (FG-Fi-114)

The relation of management and planning to success in farming.

Department of Agricultural Economics, University of Helsinki,
Helsinki.

Five year agreement COMPLETED July 18, 1965.

E8-ENT-1 (FG-Fi-126)

Population dynamic studies of Calligypona pellucida (F.) and the nature of injuries caused by this species on cereals, especially on oats and spring wheat.

Agricultural Research Centre, Tikkurila.

Four and one half year agreement COMPLETED July 25, 1965.

E8-FS-1 (FG-Fi-117)

Studies of the most important factors controlling the quantity and quality of natural seed crops of forest trees.

Forest Research Institute, Helsinki.

Five year agreement COMPLETED September 9, 1965.

E8-FS-9 (FG-Fi-118)

Factors affecting the impregnability of wood.

State Institute for Technical Research, Helsinki.

Five year agreement COMPLETED September 9, 1965.

E8-FS-10 (FG-Fi-121)

Moisture-temperature-time-strength relations for Pinus sylvestris, Picea excelsa, and Betula verrucosa (Scots pine, Norway spruce, and European birch).

State Institute for Technical Research, Helsinki.

Five year agreement COMPLETED October 7, 1965.

FINLAND (continued)

E8-FS-18 (FG-Fi-119)

Accessibility studies of cellulose fiber (wood).

State Institute for Technical Research, Helsinki.

Five year agreement COMPLETED October 4, 1965.

E8-FS-32 (FG-Fi-124)

Improved forest survey methods.

Institute of Forest Mensuration and Management, University of Helsinki, Helsinki.

Five year agreement COMPLETED January 1, 1966.

E8-FS-36 (FG-Fi-116)

The importance of soil temperature, height of water table, and micro-climate as growth factors of pine, spruce, and birch trees.

Forest Research Institute, Helsinki.

Five year agreement COMPLETED September 9, 1965.

E8-FS-38 (FG-Fi-111)

Investigation of the orientating stimuli guiding insect pests of forests to suitable host trees, by determining the attractiveness to the insects of various extracts from bark, foliage, and wood of trees.

University of Helsinki, Institute for Agriculture and Forest Zoology, Helsinki.

Five year agreement COMPLETED July 6, 1965.

UR-E8-(60)-3 (FG-Fi-105)

Fractionation of gelatin and soluble collagen proteins by electro-osmotic and ion-exchange techniques, and characterization of the fractions by chemical and physico-chemical means, to provide fundamental information that may contribute to expanded utilization of hides and skins.

University of Turku, Department of Medical Chemistry, Faculty of Medicine, Turku.

Five year agreement COMPLETED August 31, 1965.

UR-E8-(20)-10 (FG-Fi-134)

A study of the interrelationships of finishing treatments, moisture, fabric handle, and tailoring qualities in all-wool fabrics, to provide a basis for the development of finishing treatments which will result in improved fabric qualities, and increased utilization of wool.

Textile Research Association, Helsinki.

Four year agreement COMPLETED October 30, 1965.

FRANCE

E9-AMS-4(a) (FG-Fr-118)

An investigation of the relationship between fiber maturity and breakage during the mechanical processing of cotton, and the relation of these factors to processing performance and product quality.

Centre de Recherches des Industries Textiles de Rouen, Rouen.

Four year agreement COMPLETED March 4, 1966.

E9-AMS-5(a) (FG-Fr-117)

Instrument for homogenizing and orienting fibers in samples for cotton testing.

Centre de Recherches des Industries Textiles de Rouen, Rouen.

Four year agreement COMPLETED March 4, 1966.

UR-E9-(10)-7 (FG-Fr-107)

Development of immunochemical methods of analysis applicable to the proteins of wheat and barley in studies relating particular properties of these cereals to their food and industrial utilization.

Institut Pasteur de Paris, Service de Chimie Microbienne, Paris.

Five year agreement COMPLETED April 27, 1966.

UR-E9-(10)-40 (FG-Fr-110)

Fractionation of zein protein of corn, and a study of the rheological and physical-chemical properties, chemical composition and structures, and problems of hydration and gelification of the fractions.

Institut National de la Recherche Agronomique, Paris.

Four year and three month agreement COMPLETED December 31, 1965.

UR-E9-(10)-42 (FG-Fr-108)

A fundamental investigation of the physicochemical alterations brought about in (corn) starches and their molecular constituents by gamma radiations, to provide information needed for modification of starch properties and for the treatment of starch-containing products used industrially or in foods.

Institut National de la Recherche Agronomique, Paris.

Four year agreement COMPLETED July 10, 1965.

UR-E9-(10)-44 (FG-Fr-104)

Study of alterations in the chemical and physical properties of wheat gluten induced by ultrasonic vibrations, and characterization of the resulting fragments, to provide information useful in the development of new or improved food and industrial products.

Institut National de la Recherche Agronomique, Paris.

Five year agreement COMPLETED June 4, 1966.

FRANCE (continued)

UR-E9-(60)-47 (FG-Fr-103)

Investigation of the proteolytic activity of crystalline rennin on the individual components of casein, to obtain information on the coagulation of milk which can be applied to improving cheese manufacturing processes and the quality of cheese.

Institut National de la Recherche Agronomique, Paris.

Five year agreement COMPLETED December 12, 1965.

UR-E9-(10)-56 (FG-Fr-120)

Selection and mutation of strains of yeasts capable of producing high quantities of sulfur-containing amino acids for use in increasing the efficiency of cereal-grain-based feeds deficient in these amino acids.

Institut National de la Recherche Agronomique, Paris.

Three year agreement TERMINATED May 31, 1966.

UR-E9-(20)-61 (FG-Fr-109)

A fundamental study of the relation of crystallinity to accessibility in native and chemically modified cotton, to obtain fundamental information on the supermolecular structure of cotton that is needed in the development of improved cotton products.

Institut National de Recherche Chimique Appliquee, Paris.

Five year agreement COMPLETED May 4, 1966.

UR-E9-(60)-76 (FG-Fr-106)

Comparative studies of the chemical structure and biological activity of lysozymes from egg white and other sources, in order to evaluate the potential of lysozymes in the processing of agricultural commodities.

Faculty of Sciences, University of Paris, Paris.

Five year agreement COMPLETED April 17, 1966.

INDIA

A7-AH-15 (FG-In-152)

Effectiveness of different methods of utilizing available sources of germ plasm in improving the productive performance of poultry.

Rajasthan College of Agriculture, Department of Animal Husbandry,
Rajasthan.

CANCELLED July 27, 1965.

A7-CR-43 (FG-In-156)

Studies on the effects of antibiotic substances and of antagonistic soil microorganisms on important plant pathogenic fungi.

Sri Venkateswara University College, Tirupati.

TERMINATED October 31, 1965.

INDIA (continued)

A7-CR-59 (FG-In-163)

Polyfructosan biosynthesis in fodder crops and its degradation.

Chemistry Department, The University of Lucknow, Lucknow.

Three year agreement COMPLETED January 17, 1966.

ISRAEL

A10-ERS-2(k) (FG-Is-155)

Evaluation of long term programs for agriculture, with respect to requirements and supply of capital.

Faculty of Agriculture, The Hebrew University, Rehovoth.

Three year agreement COMPLETED April 22, 1966.

A10-ERS-3(k) (FG-Is-151)

Quantitative analysis of optimal water resource development and allocation.

Faculty of Agriculture, The Hebrew University, Rehovoth.

Three year agreement COMPLETED February 24, 1966.

A10-ERS-9(k) (FG-Is-173)

Methods of compilation of agricultural statistics.

Central Bureau of Statistics of the Government of Israel, Hebrew University of Jerusalem, Jerusalem.

Two year agreement COMPLETED February 28, 1966.

A10-CR-1 (FG-Is-109)

The screening of collections of cultivated barleys and related species for resistance to barley disease pathogens and the utilization of sources of resistance as genetical material for breeding for resistance.

The Hebrew University and Agricultural Research Station, Rehovoth.

Five year agreement COMPLETED January 19, 1966.

A10-CR-2 (FG-Is-114)

The quantitative inheritance of characters influencing lint yield and quality in cotton, studies by means of diallel crosses between varieties of Gossypium hirsutum and Gossypium barbadense.

The Hebrew University, Rehovoth.

Five year agreement COMPLETED February 17, 1966.

A10-CR-3 (FG-Is-108)

The root system of spring wheat with reference to its influence on lodging resistance.

The Hebrew University, Rehovoth.

Five year agreement COMPLETED January 19, 1966.

ISRAEL (continued)

A10-CR-7 (FG-Is-111)

The physiological basis of the tolerance of evergreen fruit trees to lime and saline soil and water conditions, with special reference to the selection of rootstocks of avocado and citrus by physiological tests.

Agricultural Research Station, Rehovoth.

Five year agreement COMPLETED February 7, 1966.

A10-CR-8 (FG-Is-105)

The physiology of rest (dormancy--temporary suspension of visible growth, especially that of buds and seeds) and its application to fruit growing.

Agricultural Research Station, Beit-Dagan.

Five year agreement COMPLETED August 27, 1965.

A10-CR-10 (FG-Is-106)

New crops screening of native plants of Israel of potential use in the agriculture of the United States.

The Agricultural Research Station, Beit-Dagan.

Five year agreement COMPLETED November 9, 1965.

A10-FS-6 (FG-Is-115)

The germination of seeds of desert plants (especially plants with potential use for forage or watershed cover).

The Hebrew University, Jerusalem.

Five year agreement COMPLETED February 16, 1966.

A10-FS-9 (FG-Is-131)

Monographic revision of trees of the genus Tamarix.

The Hebrew University of Jerusalem, Jerusalem.

Four year agreement COMPLETED March 4, 1966.

A10-AMS-7(a) (FG-Is-110)

Development of a rapid, simple test for protein nutritive value of cereal grains and feeds.

Technion, Israel Institute of Technology, Haifa.

Five year agreement COMPLETED January 23, 1966.

UR-A10-(40)-18 (FG-Is-112)

Investigations of soybean saponins as related to the processing of petroleum ether-extracted meal for feed and to the preparation of soy foods, to provide information basic to improving the nutritional value of soybean protein products.

The Hebrew University, Faculty of Agriculture, Rehovoth.

Five year agreement COMPLETED February 19, 1966.

ISRAEL (continued)

UR-A10-(50)-25 (FG-Is-141)

Study of enzymatic degradation of sucrose in sugar beet tissues to provide information necessary for development of improved procedures in the handling of sugar beets for processing into sugar or other useful products.

Hebrew University of Jerusalem, Biological Chemistry Department, Jerusalem.

Three and one-half years agreement COMPLETED December 31, 1965.

ITALY

E15-AMS-2(a) (FG-It-126)

Studies of the main rots of apples and pears.

Istituto di Patologia Vegetale, Universita de Bologna, Bologna.

Three year agreement COMPLETED April 25, 1966.

E15-AMS-9(a) (FG-It-120)

A study on the insect infestation of spaghetti, macaroni, noodles and other pastas.

Ministerio del l'Agricoltura e delle Foreste, Rome.

Three years and two months agreement COMPLETED December 31, 1965.

UR-E15-(40)-10 (FG-It-106)

Investigations of the effect of metallic catalysts and physical conditions on oxidative cleavage products produced in the autoxidation of polyunsaturated fatty acids, to provide basic information for applied research on the production of new industrial chemicals from soybeans and linseed oil.

Experiment Station on Fats and Oils Industry, Milan.

Five year agreement COMPLETED November 26, 1965.

UR-E15-(10)-21 (FG-It-107)

Investigations of the growth factor (known as Vitamin B13) of distillers' dried solubles through studies of methods of isolation and purification, mode of formation, and conditions of optimum production by yeast fermentation of cereal grains, to provide basic information for utilizing grains to produce this vitamin.

Istituto Scientifico de Chimica e Biochimica "Giuliana Ronzoni," Milan.

Five year agreement COMPLETED August 24, 1965.

ITALY (continued)

UR-E15-(10)-25 (FG-It-110)

Investigations of the reaction of cereal starch dextrins with fatty acid chlorides and fatty amines, and evaluation of the products, to provide information important to increasing the utilization of wheat, corn and sorghum.

Istituto di Chimica Industriale della Universita degli Studi, Bologna.

Five year agreement COMPLETED December 18, 1965.

UR-E15-(10)-26 (FG-It-111)

Investigation of the fermentative conversion of glucose to 5-keto-gluconic acid through studies of the metabolic pathway in organisms of the Acetobacter genus, to obtain fundamental information for the utilization of grain products in the fermentative production of chemical intermediates.

University of Milan, Milan.

Five year agreement COMPLETED December 18, 1965.

JAPAN

UR-A11-(50)-7 (FG-Ja-108)

Isolation and identification of the nucleic acid derivatives of cane molasses, to obtain information applicable to expanding the utilization of molasses, industrially and in feeds.

Department of Agricultural Chemistry, Kyoto University, Kyoto.

Two year agreement COMPLETED August 31, 1965.

UR-A11-(40)-12 (FG-Ja-105)

A chromatographic study of the sugars and oligosaccharides in soybeans, to provide information needed to improve the processing of fat-free soybean meal for foods and feeds, thereby contributing to its expanded utilization.

Department of Agricultural Chemistry, Kagawa University, Kagawa-ken.

Three years and four months agreement COMPLETED June 8, 1966.

KOREA

A13-ADP-1 (FG-Ko-103)

Modified complement fixation test for the diagnosis of hog cholera.

College of Agriculture, Seoul National University, Suwon.

Two year agreement COMPLETED September 2, 1965.

NETHERLANDS

E19-AMS-8(a) (FG-Ne-101)

To study the influence of length properties on the mill processing performance of cotton.

Organization for Industrial Research, T.N.O., The Hague.

Three year, ten month agreement COMPLETED January 1, 1966.

UR-E19-(20)-4 (FG-Ne-100)

A fundamental study of the role of the structural elements of the cotton fiber in response to stress in deformation and recovery, to obtain information needed in the development of improved cotton products.

Central Organization for Applied Scientific Research (T.N.O.),
The Hague.

Four years and eight months agreement COMPLETED June 30, 1966.

PAKISTAN

A17-ENT-5 (FG-Pa-106)

Studies on scale insects, fruitflies, and mites and their natural enemies in West Pakistan.

Commonwealth Institute of Biological Control, Rawalpindi.

Five year agreement COMPLETED June 23, 1966.

A17-ENT-9 (FG-Pa-101)

Studies on insect enemies of noxious weeds in Pakistan.

Commonwealth Institute of Biological Control, Rawalpindi.

Five year agreement COMPLETED July 21, 1965.

A17-FS-1 (FG-Pa-105)

Survey of insect fauna of the forests of Pakistan.

Forest Research Institute, Peshawar.

Three year agreement COMPLETED November 30, 1965.

A17-FS-6 (FG-Pa-104)

Studies on the natural enemies of insect pests of West Pakistan forests.

Commonwealth Institute of Biological Control, Pakistan Station,
Rawalpindi.

Five year agreement COMPLETED June 23, 1966.

PERU

S8-FS-1 (FG-Pe-101)

Collection of wood samples and herbarium voucher specimens from the forest trees of Peru.

Ministry of Agriculture, Forest Service, Lima.

Five year agreement COMPLETED May 8, 1966.

POLAND

E21-AH-1 (FG-Po-110)

Secretion of anterior pituitary hormones and ovulation in small ruminants.

Institute of Animal Physiology, Polish Academy of Science, Warsaw.
Five year agreement COMPLETED September 11, 1965.

E21-AH-2 (FG-Po-117)

Basic studies on the color of pork meat and on the color in pork as influenced by heredity, sex, age, feeding and management of animals.

Institute of Animal Physiology and Nutrition, Warsaw.
Five year agreement COMPLETED January 8, 1966.

E21-CR-4 (FG-Po-125)

Studies on cereal rusts.

Institute of Plant Breeding and Acclimatization, Warsaw.
Five year agreement COMPLETED March 31, 1966.

E21-CR-5 (FG-Po-108)

Studies on the nature of plant resistance to soil nematodes.

Institute of Plant Protection, Helminthological Laboratory, Poznan.
Five year agreement COMPLETED July 31, 1965.

E21-CR-7 (FG-Po-111)

Studies on growth promoting substances and inhibitors in apple trees during different stages of tree development.

Research Institute of Pomology, Skierniewice.
Five year agreement COMPLETED December 4, 1965.

E21-CR-10 (FG-Po-122)

Nitrogen forms in different species and varieties of leguminous plants and their inheritance.

Institute of Plant Breeding, Polish Academy of Sciences, Poznan.
Five year agreement COMPLETED February 28, 1966.

E21-ENT-2 (FG-Po-114)

Studies on the possibility of biological control of aphids and scale insects and the effects of pesticides on the natural enemies of these fruit tree pests.

Research Institute of Pomology, Skierniewice.
Five year agreement COMPLETED December 4, 1965.

E21-ENT-3 (FG-Po-123)

The influence of some vitamins and fats on the physiology of the Colorado potato beetle (Leptinotarsa decemlineata Say).

Institute of Plant Protection, Poznan.
Five year agreement COMPLETED March 2, 1966.

POLAND (continued)

E21-ENT-5 (FG-Po-115)

Studies on the different susceptibility of red spiders (which affect fruit orchards) to acaricides and on cholinesterases in red spiders as influenced by acaricides.

Institute of Pomology, Skierniewice.

Five year agreement COMPLETED December 4, 1965.

E21-ENT-6 (FG-Po-112)

The nature of infectious processes caused by protozoa in insects.

Institute of Plant Protection, Poznan.

Five year agreement COMPLETED September 25, 1965.

E21-ENT-7 (FG-Po-124)

The development, maturation, and production of drones and natural mating of virgin and drone honey bees.

Department of Pomology of the Central Agricultural College, Warsaw.

Five year agreement COMPLETED January 22, 1966.

E21-SWC-7 (FG-Po-118)

Distribution of micronutrient elements among soil minerals.

The Institute of Soil Science and Plant Cultivation, Pulawy.

Four years, nine and one-half months agreement COMPLETED October 30, 1965.

E21-FS-7 (FG-Po-120)

Studies in the development of improved strains of parasites of forest insects.

Chair of Forest Protection, College of Agriculture, Poznan.

Five year agreement COMPLETED March 2, 1966.

E21-AMS-1(a) (FG-Po-119)

Studies on the nutritional requirements of selected species of mites of importance to stored products (grain, cheese, cured meats, dried fruit, spices, etc.).

Central College of Agriculture, Warsaw.

Five year agreement COMPLETED February 1, 1966.

E21-AMS-7(k) (FG-Po-128)

The effect of microflora of wheat flour on its stability, biochemical and technological properties.

Chair of Agricultural Technology, Higher School of Agriculture, Poznan.

Four year agreement COMPLETED November 30, 1965.

POLAND (continued)

UR-E21-(10)-1 (FG-Po-109)

Determination of the relationships between sulfhydryl groups and amylolytic and proteolytic enzymes in wheat, wheat flour, and malted wheat, to obtain fundamental information on the role of these reactants in the utilization of wheat for bread-making and other purposes.

University of Poznan, Poznan.

Five year agreement COMPLETED July 22, 1965.

UR-E21-(60)-7 (FG-Po-116)

Investigations on the development of mutant strains of molds with increased ability to synthesize vitamin B, for use in improving the quality of mold-ripened cheese.

Institute of Dairy Industry, Warsaw.

Five year agreement COMPLETED January 31, 1966.

UR-E21-(40)-8 (FG-Po-131)

Investigation of the possible role of sterols in the development of flavors and odors in soybean oil through studies of sterol transformations during processing, in order to increase utilization of soybeans in food.

Department of Fat Technology, Gdansk Polytechnic, Gdansk.

Four year agreement COMPLETED August 31, 1965.

SPAIN

E25-ADP-1 (FG-Sp-122)

Studies on tissue culture technique for animal virus research.

Animal Virus Section, Institute "Jaime Ferran" of Microbiology, Madrid.

Four year agreement COMPLETED September 5, 1965.

E25-CR-1 (FG-Sp-110)

Factors affecting the frequency of monoploid seedlings in maize and their subsequent diploidization.

Instituto Nacional de Investigaciones Agronomicas, Madrid.

Five year agreement COMPLETED January 16, 1966.

E25-CR-3 (FG-Sp-112)

Cereal rusts in Spain.

Instituto "A. J. Cavanilles," Madrid.

Five year agreement COMPLETED February 14, 1966.

E25-CR-11 (FG-Sp-111)

New crops screening of native plants of Spain, of potential use in the agriculture of the United States.

Instituto Nacional de Investigaciones Agronomicas, Madrid.

Five year agreement COMPLETED February 9, 1966.

SPAIN (continued)

E25-FS-1 (FG-Sp-117)

Studies of botany, ecology, biology, and forage value of the principal existing species in the spontaneous pasture grounds of the mountains and semi-arid regions of Spain.

Forest Research Institute, Madrid.

Five year agreement COMPLETED May 21, 1966.

E25-FS-3 (FG-Sp-116)

Pests of poplars and preventive and curative methods of control.

Forest Pest Service, Ministry of Agriculture, Madrid.

Five year agreement COMPLETED May 7, 1966.

E25-FS-13 (FG-Sp-114)

Investigation of open fires and transport of firebrands within fire systems, for possible application to forest fire prevention and control.

National Institute of Aeronautical Technology, Madrid.

Five year agreement COMPLETED May 2, 1966.

E25-FS-20 (FG-Sp-115)

The determination of levels of boron, manganese and molybdenum sufficient for growth of Monterey Pine and the characterization of deficiency symptoms for these three elements.

Forest Research Institute, Madrid.

Five year agreement COMPLETED May 7, 1966.

TAIWAN (Republic of China)

A6-HN-2(a) (FG-Ta-106)

Nutritional studies on rice and sweetpotato for the improvement of Formosan diet.

College of Agriculture, National Taiwan University, Taipei.

Two and one-half year agreement COMPLETED January 10, 1966.

TURKEY

A22-ADP-1 (FG-Tu-101)

The transmission, distribution and bio-economics of Fascioliasis (liver fluke disease) of domestic animals in Turkey.

Ankara University, Veterinary Faculty, Ankara.

Five year agreement COMPLETED January 4, 1966.

TURKEY (continued)

A22-ADP-2 (FG-Tu-102)

Etiologic investigation of bovine urinary bladder tumors due to enzootic bovine hematuria in Turkey and its relation to bovine papilloma agent.

Ankara University, Veterinary Faculty, Ankara.

Five year agreement COMPLETED January 4, 1966.

A22-AMS-1(k) (FG-Tu-105)

Development of an odor measuring instrument for use in inspection and grading of foods.

Robert College of Istanbul, Istanbul.

Three year agreement COMPLETED July 2, 1965.

UNITED KINGDOM

E29-ADP-2 (FG-UK-129)

Investigation of scrapie disease in sheep and goats (transmissibility, immunology, control, etc.).

Agricultural Research Council, Field Station, Compton, England.

Five year agreement COMPLETED February 28, 1966.

E29-ADP-3 (FG-UK-131)

Scrapie disease of sheep (emphasizes genetic or contact methods of transmission).

Animal Disease Research Association, Moredun Research Institute, Edinburgh, Scotland.

Five year agreement COMPLETED February 26, 1966.

E29-AMS-1(a) (FG-UK-123)

Effect of temperature, concentration of carbon dioxide, and the concentration of oxygen on the respiratory gaseous exchange of apples, under constant conditions and also as related to rate of change of environment.

Ditton Laboratory, Larkfield, Maidstone, Kent, England.

Five year agreement COMPLETED September 12, 1965.

UR-E29-(30)-16 (FG-UK-122)

Determining the causes and control of discoloration in processed potato products through investigation of enzymes and substrates involved in darkening during the processing steps that precede blanching.

Low Temperature Research Station, Cambridge, England.

Five year agreement COMPLETED July 24, 1965.

UNITED KINGDOM (continued)**UR-E29-(40)-26 (FG-UK-126)**

Studies on the fatty acid and glyceride composition of cottonseed oil and crystallizing behaviour of some of the major components, to obtain fundamental information that will contribute to the development of improved edible products and hence to expanded utilization of cottonseed oil.

British Food Manufacturing Industries Research Association,
Surrey, England.

Five year agreement COMPLETED April 30, 1966.

UR-E29-(10)-37 (FG-UK-130)

Studies on the quantitative measurements of properties of wheat kernels that vary significantly during conditioning, as a basis for improved conditioning of wheat for milling by new and improved methods and increased industrial utilization of flour and milled wheat products.

Research Association of British Flour-Millers, Herts, England.

Five year agreement COMPLETED February 27, 1966.

UR-E29-(60)-41 (FG-UK-124)

Isolation and characterization of selected enzymes of milk, to obtain fundamental information that will aid in improving the quality of dairy products.

National Institute for Research in Dairying, Shinfield, Reading,
England.

Five year agreement COMPLETED November 27, 1965.

UR-E29-(10)-47 (FG-UK-127)

Development of rapid chemical methods for assay of changes in the biological value of proteins during processing of wheat food products, as a contribution to the expansion of markets for wheat.

University of Cambridge, School of Agriculture, Cambridge, England.

Five year agreement COMPLETED January 31, 1966.

UR-E29-(40)-49 (FG-UK-125)

Investigation of the reactions of unsaturated fatty acids and their derivatives in molten alkali, to discover new chemical intermediates important to the increased utilization of soybean and linseed oils.

Queen Mary College, University of London, London, England.

Five year agreement COMPLETED October 12, 1965.

UR-E29-(40)-50 (FG-UK-128)

Quantitative study of the polysaccharides in fat-free soybean meal to provide information needed to improve the processing of meal for feeds and feeds thereby contributing to its expanded utilization.

University of Edinburgh, Edinburgh, Scotland.

Five year agreement COMPLETED December 26, 1965.

URUGUAY

S9-CR-1 (FG-Ur-107)

Natural enemies of aquatic plants.

Facultad de Agronomia, Universidad de la Republica, Montevideo.

Three years and ten months agreement COMPLETED November 30, 1965.

S9-CR-3 (FG-Ur-101)

New crops screening of native plants of Uruguay and adjacent Argentina, Brazil, and Paraguay of potential use in the agriculture of the United States.

Faculty of Agronomy, University of the Republic, Montevideo.

Five year agreement COMPLETED May 1, 1966.

S9-ENT-1 (FG-Ur-103)

Studies of the parasites and predators of several insects (such as corn earworm, potato leafhopper and alfalfa caterpillar) of economic importance.

Facultad de Agronomia, Universidad de la Republica, Montevideo.

Three years and ten months agreement COMPLETED November 30, 1965.

S9-ENT-3 (FG-Ur-104)

Investigations on the biology and biological control of the fire ant, Solenopsis saevissima richteri, in Uruguay.

Facultad de Agronomia, Universidad de la Republica, Montevideo.

Three years and ten months agreement COMPLETED November 30, 1965.

UR-S9-(40)-2 (FG-Ur-100)

Preparation, characterization, and evaluation of derivatives of gossypol from cottonseed, for use as biologically active materials, ultraviolet absorbers, and other valuable products.

Department of Chemistry, University of the Republic, Montevideo.

Five year agreement COMPLETED June 30, 1966.

YUGOSLAVIA

E30-CR-2 (FG-Yu-100)

New crops screening of native plants of Yugoslavia of potential use in agriculture.

University of Ljubljana, Ljubljana.

Five year agreement COMPLETED May 30, 1966.

E30-CR-3 (FG-Yu-102)

Collection, classification, evaluation and preservation of domestic maize germ plasm in Yugoslavia.

Central Maize Institute, Zemun-Polje (Belgrade).

Three year agreement COMPLETED September 10, 1965.

Table I

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

FOREIGN RESEARCH AND TECHNICAL PROGRAMS DIVISION

WASHINGTON, D. C. 20250

June 30, 1966

FOREIGN AGRICULTURAL RESEARCH AGREEMENTS EXECUTED
AND CURRENTLY ACTIVE UNDER PUBLIC LAW 480

[illegible]

Table II

UNITED STATES DEPARTMENT OF AGRICULTURE

Agricultural Research Service

Foreign Research and Technical Programs Division

Washington, D. C. 20250

June 30, 1966

FOREIGN AGRICULTURAL RESEARCH AGREEMENTS EXECUTED

UNDER PUBLIC LAW 480

(by continents, countries, fiscal year of agreement, and section of the Law)

Countries	Fiscal Year Agreement Executed											
	1958	1959	1960	1961	1962	1963	1964	1965	1966	Totals	Total	
ASIA	: a k : a k : a k : a k : a k : a k : a k : a k :	: 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : 10 ⁴ : Agmnts.										
Ceylon	:	:	:	:	1:	:	:	:	:	1:	1	
India	:	:	1: 1	6: 11	13: 12	24: 8	21: 20	43: 7	28: 135:	193		
Israel	3	:	2	3	9: 7	18: 1	15: 4	11: 7	30: 4	20: 31	134	
Japan	:	:	1	:	2	:	5	:	6	:	23	
Korea	:	:	:	:	:	2:	3:	:	:	5:	5	
Pakistan	:	:	2:	3:	3:	3:	4:	2:	5:	22:	22	
Philippines	:	:	:	:	2:	1:	:	:	:	3:	3	
Taiwan (Rep. of China)	:	:	:	:	:	1	1: 2	4: 2	3:	5	8: 13	
Turkey	:	:	1:	3:	:	3:	3:	1:	1:	1: 12:	13	
EUROPE	:	:	:	:	:	:	:	:	:	:	:	
Austria	:	:	:	:	:	:	:	:	:	:	2	
Belgium	:	:	:	:	:	:	:	:	:	:	3	
Finland	:	2	5	6: 1	13: 1	8: 2	:	1	1	3: 2	16	
France	:	:	3	6	9	1	2	2	1	:	24	
Germany, West	:	:	:	:	1	1	1	4	:	7	7	
Greece	:	:	:	:	1	1	1	:	:	3:	3	
Italy	:	:	6	6	5	3: 6	3: 1	2: 4	:	28	8: 36	
Netherlands	:	:	:	:	2	1	2	3	:	8	8	
Poland	:	:	:	7: 4	19: 2	11: 3	7: 1	8: 2	13: 3	20: 15	85: 100	
Spain	:	:	6	2: 2	8: 2	5	4: 3	6: 3	3: 3	19	28: 47	
Sweden	:	:	:	:	1	2	3	:	:	8	8	
Switzerland	:	:	:	:	:	:	:	:	:	:	2	
Un. Kingdom	:	12	10	8	2: 2	2	5	:	:	2	43	
Yugoslavia	:	:	:	:	1:	1: 1	1:	1:	1:	12: 1	16: 17	

Table II (continued)

Countries	Fiscal Year Agreement Executed																
	1958	1959	1960	1961	1962	1963	1964	1965	1966	Totals			Total				
AFRICA	104	104	104	104	104	104	104	104	104	104	104	104	Agmts.				
	a	k	a	k	a	k	a	k	a	k	a	k	a				
Egypt	:	:	:	:	2	1	1	3	:	3	:	10	10				
OCEANIA	:	:	:	:	:	:	:	:	:	:	:	:	:				
Australia	:	:	:	:	:	:	3	:	:	:	3	:	3				
SOUTH AMERICA	:	:	:	:	:	:	:	:	:	:	:	:	:				
Brazil	:	:	:	:	3	15	:	:	:	:	3	15	18				
Chile	:	:	:	:	1	:	3	:	:	:	:	4	4				
Colombia	:	:	:	:	2	5	1	1	1	1	3	9	12				
Peru	:	:	:	2	1	:	:	:	:	:	:	3	3				
Uruguay	:	:	:	1	1	5	2	:	:	1	2	9	11				
TOTALS	3	14	32	19	51	93	38	69	41	71	60	97	32	96	305	513	818
	3	14	51	102	144	107	112	157	128	:	:	:	:	:	:	818	:

Table III

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Foreign Research and Technical Programs Division
Washington, D. C. 20250

June 30, 1966

FOREIGN AGRICULTURAL RESEARCH AGREEMENTS EXECUTED
UNDER PUBLIC LAW 480
(by sponsoring agency and fiscal year of
execution of agreement)

	Fiscal Year Agreement Executed											Total
	1958	1959	1960	1961	1962	1963	1964	1965	1966	Agreements		
ARS	:	:	:	:	:	:	:	:	:	:	:	:
AE	:	:	:	1	2	:	2	4	:	9	:	:
ADP	:	:	1	7	10	2	6	4	4	34	:	:
AH	:	:	:	4	5	10	6	7	9	41	:	:
CR	:	:	4	21	29	22	21	38	33	168	:	:
ENT	:	:	1	11	17	8	8	13	24	82	:	:
SWC	:	:	1	2	3	5	5	8	6	30	:	:
HN	:	:	:	:	:	1	9	8	2	20	:	:
MQ	:	:	2	7	10	9	3	14	5	50	:	:
UR	3	14	30	28	42	32	35	41	28	253	:	:
ERS	:	:	:	1	3	3	4	2	2	15	:	:
FS	:	:	12	20	23	15	13	17	15	115	:	:
SRS	:	:	:	:	:	:	:	1	:	1	:	:
TOTALS	3	14	51	102	144	107	112	157	128	818	:	:

June 30, 1966

FOREIGN RESEARCH AND TECHNICAL PROGRAMS DIVISION

WASHINGTON, D. C. 20250

FOREIGN AGRICULTURAL RESEARCH AGREEMENTS EXECUTED
UNDER PUBLIC LAW 480

For Last Quarter of Fiscal Year 1966 -
April 1 through June 30, 1966

Countries	Sponsoring USDA Agencies												10 ⁴	10 ⁴	
	:AE	:ADP	:AH	:CR	:ENT	:SWC	:HN	:MQ	:UR	:ERS	:FS	:SRS	:TOTALS:	:(a)	:(k)
ASIA	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
India	:	:	:	4:	2:	2:	1:	:	3:	:	2:	:	14	:	3 11
Israel	:	:	1:	1:	:	1:	:	:	:	:	:	:	3	:	3
Japan	:	:	:	:	:	:	:	:	2:	:	:	:	2	:	2
Pakistan	:	:	:	:	2:	:	:	:	:	:	1:	:	3	:	3
EUROPE	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Austria	:	:	:	:	:	:	:	:	2:	:	:	:	2	:	2
Belgium	:	:	:	:	:	:	:	:	1:	:	:	:	1	:	1
Poland	:	:	1:	3:	5:	:	:	:	:	:	:	:	9	:	9
Spain	:	:	:	:	:	:	:	:	:	:	2:	:	2	:	2
Yugoslavia	:	:	1:	2:	1:	1:	:	:	:	:	:	:	5	:	5
AFRICA	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Egypt	:	:	:	:	1:	:	:	:	:	:	:	:	1	:	1
SOUTH AMERICA	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Uruguay	:	:	:	:	1:	:	:	:	:	:	:	:	1	:	1
TOTALS	:	:	3:	10:	12:	4:	1:	:	8:	:	5:	:	43	:	8 35
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	43

